Essays on the Economics of Art and Culture

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The Faculty of Economics, Business Administration and Information Technology of the University of Zurich hereby authorizes the printing of this dissertation, without indicating an opinion of the views expressed in this work.

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Preface

The research presented in this thesis has been undertaken during my time at the Department of Economics at the University of Zurich. First and foremost I want to thank my academic mentor Prof. Dr. Dr. h.c. mult. Bruno Frey. His spirit of research, creativity and generosity are truly extraordinary. He challenged and inspired me to analyze the world from an economic perspective while always keeping in mind the limits of economic theory and being open to insights from other social sciences. While few economists dare to avoid the beaten track and apply the economic approach to topics such as the arts, and even fewer economists dare to use subjective well-being data, he suggested defying both conventions simultaneously. In other words:

> "Utility seems to be to economists what the Lord is to theologians. Economists talk about utility all the time, but do not seem to have hope of ever observing it this side of heaven." (p.1 Wansbeek and Kapteyn, 1983)

Bruno Frey created an atmosphere at his chair and doctoral seminars from which I have greatly benefited and in which intellectual exchange and collaboration as well as personal support had their place. Many discussions with Prof. Dr. Christine Benesch, Prof. Dr. Susanne Neckermann, Reto Cueni, Jana Gallus, Stephan Kyburz and Vera Eichenauer have influenced my thinking and the content of this thesis. I am particularly grateful to Reto Cueni and Jana Gallus for the care with which they read earlier drafts of this work.

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Chapters 2, 3 and 4 are partly based on papers jointly written with co-authors. To highlight their contribution, I use the first-person plural "we" throughout these chapters. I remain, of course, responsible for the content, including any errors, in this thesis.

Finally, I want to thank my friends and family for encouraging me and for believing in me and my academic projects. Special thanks go to my parents Monika and Ingo Steiner and my sister Kristina Steiner who have constantly supported me in every possible manner.

Chapter 1

Introduction

1.1 The Economics of Art and Culture

Despite the importance of the cultural sector in today's society, there are considerable gaps in the literature on the economics of culture and the arts. Regardless of its definition, culture holds a prominent place in the lives of many people. In a special Eurobarometer survey on cultural values conducted in 2007, over three quarters (77%) of all Europeans stated that arts and culture were important to them; only 22% considered culture to be unimportant (Eurostat, 2011). Complementing the subjective responses given in the Eurobarometer survey, several financial statistics underline the significance of the cultural sector. In 2005, the cultural and creative sectors in the European Union created a turnover of almost €700 billion and employed a minimum of 5.8 million people (UNCTAD, 2010). On average, culture accounted for 3.9% of total household expenditure in the European Union member states in 2005, which is larger than the share of health expenditures, at 3.4%, or education, at 1.1% (Eurostat, 2011).

Besides private expenditure, direct government support serves as a measure of the importance of the arts. In 2011, the direct government support for the arts in Europe in 2011 varied widely between countries, from only €45 per capita in Greece, up to €117 in Germany, €235 in Switzerland and €446 in Norway (Council of Europe/ERICarts, 2013). In 2009, the total annual public spending for the cultural sector on all federal levels added up to over CHF 2.4 billion (€1.6 billion) in Switzerland (Tedeschi and Torche, 2010) and to almost €8.5 billion in Germany (Destatis, 2012). The size is comparable to spending on science, research and development, or health, environment and recreation.

While these numbers refer to direct government support only, indirect subsidies through tax exemptions and regulations such as intellectual property laws also play an important role.[1]

Economists who survey the field of cultural economics usually locate its origins in 1966, when Baumol and Bowen (1966) published the first major work dedicated specifically to the economics of arts. Other forerunners in the field were Lord Lionel Robbins (1963) and Sir Alain Peacock (1969), who investigated the normative question why the state should support the arts. The governmental support of the cultural sector is one key issue in the economics of culture and the arts, since, according to economic theory, state interventions have to be justified with market failure. Over the last decades, a substantial literature has grown in which the tools of economic theory and analysis have been applied to problems the cultural sector (for surveys see for example, Towse, 2011, 2010; Hutter and Throsby, 2008; Ginsburgh and Throsby, 2006; Frey, 2003). Today, cultural economics is recognized as an established field of economics, also including the creative industries, such as music, film, and the broadcasting and book publishing industries. The Association for Cultural Economics International holds regular conferences, and there are various journals (for example the *Journal of Cultural Economics*) and an own field classification provided by the *Journal of Economics Literature* (JEL-code: Z1).

The economics of culture and the arts generally conceive of culture as an institution or as an organization supplying artistic services and not as an attitude or a way of behaving. Culture in a broad sense can, of course, be defined in many different ways. It may, for example, be understood as a "common value system, viewpoints, conventions, rules, ways of life and practices of a certain group of people?" (Krätke, 2003). Culture can also be understood in a more narrow sense, namely as cultural industries comprising entertainment, the media, radio, TV, printing and publishing, design, and advertising (Frey, 2008a). In the following, culture is defined even more narrowly, encompassing the performing arts of theatre, opera and ballet and the visual arts, comprising painting, sculpture, and music, and cultural heritage in the form of monuments and buildings. This specification has frequently been used in the field of cultural economics, see for example the monographs by Baumol and Bowen (1966), Peacock and Rizzo (1994) or recently Towse (2010).

[1]For more statistics on the cultural sector, see www.culturalpolicies.net. This website, provided by the council of Europe, gives a detailed overview of the cultural sector for many European countries.

Economists use two main approaches to conduct research on culture and the arts, and these are used interchangeably in the following (Frey, 2003). The first approach is to study the relationship between two different sectors, or spheres of society, namely culture and the economy. The effect of culture on the economy is difficult to capture, as the endeavor to estimate the effect of a theater or a museum on regional economic activity instantly reveals. There is a great number of impact studies seeking to measure the effect of such institutions on firms located in a particular area (Langen and Garcia, 2009; Herrero et al., 2006; Saayman and Saayman, 2004).

The second approach is to study the arts with the help of economic analysis, mostly the rational choice approach.[2] Understood in this way, cultural economics belongs to a more general field of the economic approach to human behavior, comprising, among others, the economics of education, health, the family, sports, or religion. The formulation of the selfishly maximizing homo oeconomicus has often been extended in cultural economics by introducing psychological and sociological elements, for example decision anomalies (Towse, 2011; Bénabou and Tirole, 2006; Frey, 2003).

Most adherents of cultural economics consider it a sub-discipline of economics and combine the two approaches. In particular, they use the rational choice approach to analyze the effect of economic factors on the arts. Examples are the study of art markets, most prominently the rate of return on investment in art (for example, Renneboog and Spaenjers, 2013), the income of artists (for example, Bille et al., 2012), or the impact of regulations (for example, Rizzo, 2011). Both approaches will be considered in my dissertation. The first part on artists' labor market choices includes the interdisciplinary approach established by modern happiness research and enriches the neoclassical rational choice approach with procedural aspects of work. In line with economic impact studies, the second part measures the economic impact of hosting a European Capital of Culture, and extends this field by applying the life satisfaction approach. Finally, the third part uses the public choice approach developed by political economy to investigate the factors determining the UNESCO World Heritage List.

[2]Some of the most prominent pioneers of this approach were Simon (1955), Becker (1976), Sen (1977) and Kahneman and Tversky (1979).

1.2 Public Policy Considerations

The cultural sector is subject to strong government interventions; for example, the UNESCO World Heritage sites and European Capitals of Culture are determined in a political process. The arts in general and cultural institutions in particular, such as museums, theaters and thus indirectly artists, are strongly supported by most states. In European countries, it is not uncommon that performing arts (orchestras, operas, theaters etc.) are completely state financed and even staffed by singers and actors with civil-servant status (Towse, 2010). The typical model that cultural economists deal with is that of a mixed economy of cultural and private ownership and supply. Many arts and heritage suppliers are non-profit organizations supported to a greater or lesser extent by the state. The balance of public and private ownership and the total public finance share of cultural expenditure differ strongly between countries. For example, the United Kingdom and the United States have a marked history of involvement of non-profit organizations in the provision of arts and culture. Charity law confers tax advantages to these organizations, but also restricts the selection to the board of management (Netzer, 2011).

Given that economic theory approves government intervention in case of market failure, a crucial aspect for cultural economists is to determine the nature and extent of such failure. Two aspects can be distinguished: the positive issue, where the extent of government interventions is analyzed, and the normative issue of whether or not these interventions should take place, and if so, to what extent. In the second case, the aim is to find a welfare-enhancing public policy. The analysis of state interventions in the cultural sector is based on welfare theory, which focuses on the questions of whether the private market misallocates the resources, and in particular why the price system leads to an under-provision of art. When discussing welfare policies, it must be taken into account that government intervention is also subject to failure. The economics of politics or public choice (for example, Mueller, 2003) discusses many reasons why the decisions taken in the political process may deviate systematically from the preferences of the population.[3] This approach is further discussed and applied in chapter 4 on the selection of World Heritage sites.

Market failures can occur on the supply as well as on the demand side. They arise,

[3] A thorough discussion of applications of the public choice approach to the cultural sector can be found in Mazza (2011).

for example, due to positive or negative external effects, non-market demand or public good characteristics of cultural events. According to welfare economics, too little art is supplied if the market does not reflect all the preferences of individuals. One reason might be the existence of positive external effects in the production and consumption of art. Most sectors produce external effects, but theoretical and empirical considerations show that cultural activities produce more extensive and important positive externalities than other sectors (Hutter and Throsby, 2008). There might also be non-market demand. People may value the existence of a museum or the option to visit an artistic production although, in fact, they never spend any money to actually attend in person. They might also value arts as a bequest for future generations. Furthermore, artistic production is closely identified with national identity, prestige and social cohesion (Towse, 2010). Non-market demand and external effects of hosting a cultural event will be discussed in depth in section 3.3.1 using the case of the European Capitals of Culture.

Art may be of a collective nature, in the sense that nobody (including those not paying) can be excluded from enjoying it and that its consumption by one person does not reduce consumption by other people. In economics, these properties for the classification of goods are known as non-excludability and non-rivalry. Insofar as culture is a public good, the supply is lower than socially optimal. Arguments for government support of the arts that involve aspects beyond efficiency are merit goods, lack of information, irrationality, and also distributional aspects, since individuals with higher education visit cultural venues more frequently (Frey, 2003).

On the supply side, there might be imperfect competition, since the market for many cultural goods and services is characterized by monopolistic actors who offer smaller quantities at prices above marginal costs which competitive suppliers would charge (Marchi and Mietgroet, 2006). Art supply may also be subject to increasing returns to scale, which means that additional quantities may be produced at lower average cost, and therefore marginal cost pricing leads to an unsustainable deficit. Moreover, the cultural sector might suffer from a productivity lag. Suppliers in the live performing arts are subject to continuous cost pressure. It is difficult, if not impossible, to increase labor productivity, but the wages have to increase similarly to those in the rest of the economy. This is known as "cost disease" (as first described by, Baumol and Bowen, 1966). An egalitarian argument concerns income distribution: Artists tend to be, on average, poorer than other

members of society (Alper and Wassall, 2006).

For most forms of these market failures, there exist counterarguments. Here it should only be mentioned that, in order to mitigate the productivity lag, revenue can be raised by introducing prices which capture the rents generated by the consumers of the cultural activity. Thus, price differentiation enables the setting of high prices for inframarginal cultural consumers with a high consumer rent, while still setting prices equal to cost for the marginal consumers (Cowen and Tabarrok, 2000).

The existence of market failures makes it difficult to capture the economic impact of culture. Impact studies which measure the effect of single cultural institutions or festivals in a particular area are often only able to capture the additional revenue created but not the value added – which should be the object of interest from an economic point of view (Langen and Garcia, 2009; Seaman, 1997). The additional revenue does not account for the additional cost arising from the institution, the inputs that are provided by intermediaries, and potential external effects. Another method for capturing the influence of cultural institutions is to measure the social value created (Frey, 2003). Theaters, museums, and other cultural institutions provide benefits beyond only those arising from the visit of cultural institutions. These values are not reflected on the market because they accrue to individuals not attending cultural institutions and thus not paying for them. These positive external effects of cultural institutions induce a form of market failure and justify governmental intervention.

The non-user benefits and costs in the cultural sector have been empirically measured by using three different techniques. Representative surveys have been conducted of both visitors and non-visitors of a museum. In such studies, the questionnaires are designed in order to elicit the true willingness to pay for the various social values produced by a museum. The best suited are Contingent Valuation Studies, which were originally developed to capture environmental values but are now often used to capture cultural values (see, Noonan, 2003; Sunstein, 2007; Saayman and Saayman, 2004; Bateman et al., 2002). While the first two methods rely on stated preferences, another technique relies on the revealed behavior of individuals. The value of a cultural institution for the non-visitors is captured by observing how they act. One example for such a method is the travel cost approach. The value of a cultural object is calculated by summing the costs of the trip and the entrance fee which arise from visiting it (Blaug, 2001).

Most recently, the "life satisfaction approach" (Oswald and Wu, 2010; Frey et al., 2004) based on the economics of happiness has addressed the public good element of cultural supply. Due to extensive work by numerous psychologists (Diener et al., 2009; Kahneman and Krueger, 2006), the measurement of well-being has made great progress. Using representative surveys, it is now possible to approximate individual utility from work or life in general in a satisfactory way. With the help of a single question, or several questions on global self-reports, an individual's evaluation of his or her satisfaction or happiness can be measured (Frey, 2008b). The advantage is that the benefits of culture are reflected in the independently measured life satisfaction indices, which are then related to the extent of cultural supply by econometrically estimating a happiness equation. In contrast, the willingness-to-pay approach directly links the benefits to a particular cultural supply. This procedure risks falling prey to the "prompting effect" (Layard, 2011) identified in psychology. It may happen that, as a result of questioning people in surveys, and thus focusing their attention on a certain issue, a higher value is attributed to cultural supply than would otherwise be the case. The consumption of culture is to a considerable degree an experience good, i.e. many people appreciate the good only after they have consumed it (see, Frey and Steiner, 2012a; Frey and Meier, 2006). People are insufficiently aware, and perhaps some people not at all, that culture is a source of happiness. This circumstance legitimizes the support of the arts – at least for a restricted period of time.

In my dissertation, I empirically analyze how large the benefits and costs derived from cultural activities are. With the means of modern happiness research, it is possible to answer the question to what extent people derive satisfaction or dissatisfaction from cultural activities or events – on the consumption as well as on the production side. Chapter 2 applies modern happiness research to explain the labor market decisions of artists. Procedural job aspects lead to increased job satisfaction for artists. This approach has not yet been applied to issues in cultural economics, where artistic labor market choice has so far been explained in standard economics in the form of superstar theory. Chapter 3 focuses on the economic effect of hosting a cultural event, namely the European Capitals of Culture. The life satisfaction approach is applied to show that (cultural) mega-events can have a negative net effect on the well-being of the local population. Positive (or negative) welfare effects arising from cultural activities do not take into account that government policies are also subject to failure. Chapter 4 shows how the protection of

the global public good of cultural and natural heritage is biased by the political selection process with which UNESCO sites are chosen.

1.3 Artists' Job Satisfaction

In chapters 2 and 3 of my thesis, I combine the economics of art and culture with the growing field of the economics of happiness. Chapter 2 examines some peculiarities of the artistic labor market. On average artists work more, earn less and have a higher risk of becoming unemployed than other employees. They experience an earnings penalty of around 10% compared to other employees with an equal education, and the unemployment rate is 1.5 times higher than among the rest of the population.[4] According to the literature in psychology and psychiatry, artists also suffer more frequently from mental disorder and commit suicide more often; thus it can be expected that they are less happy than non-artists (Vellante et al., 2011; Stack, 1997). Creativity, a defining feature of artists, has been linked to mental illness (Rothenberg, 1990). Nevertheless, the artistic labor market attracts many young people. The number of students exceeds the available jobs by far. For example in Germany, the proportion of art students is almost four times higher than that of artists in the labor force (Eurostat, 2011). The classical explanations for this paradox are that artistic labor markets are superstar markets (Schulze, 2011; Rosen, 1981) or that artists overestimate the likelihood of future success (Towse, 2006).

The contribution of my thesis is to investigate an alternative explanation for the artistic labor market paradox. In chapter 2, it is shown that artistic work results in exceptionally high job satisfaction. This conjecture has been mentioned various times in the literature, but it has not been tested empirically. One reason for this gap in the literature is that economists' interest in job satisfaction is relatively recent. A study by Benz and Frey (2008), which is closely related to my work, shows that the self-employed are more satisfied with their work than the employed. This effect is driven by their greater independence and autonomy, a result that is evidence for procedural utility. People seem to value not only outcomes but also the processes leading to outcomes.

The analysis in my thesis is based on international cross section data from 47 countries and three national panel data sets. Artists are, on average, found to be considerably more

[4]See the homepage of the Institut für Arbeitsmarkt- und Berufsforschung http://bisds.infosys.iab.de, accessed on 15.4.2013

satisfied with their work than non-artists. For example, in the international cross section data, the job satisfaction of artists is around 0.3 points higher (on a scale from 1 to 10) compared to other employees. The correlation between an artistic occupation and job satisfaction is sizeable and comparable to the effect of being self-employed. The correlation is not driven by differences in income or working hours. Throsby (1994) asserted that artists did not fit the standard economic model of labor supply. The work-preference model includes artistic work as an argument in the utility function. The crucial assumptions are that artists derive utility and not, as assumed by standard economics, disutility from work, and that they derive less utility from income than do other workers. The estimation results of interaction effects show that the effect of working hours on job satisfaction is positive for artists, unlike for non-artists. The estimated effect of income on job satisfaction is positive for artists and non-artists alike. However, the effect is substantially smaller for artists, i.e. artists derive less utility from income than do other workers.

Using the panel structure of the three national data sets, it is shown that the higher satisfaction is not driven by time-invariant individual characteristics, such as personality. The higher job satisfaction can partially be attributed to the higher self-employment rate among artists. The job satisfaction difference between artists and non-artists is reduced by one third when controlling for self-employment. The remaining difference in job satisfaction is shown to be related to procedural characteristics. Increased variety, on-the-job learning and autonomy in choosing working hours and place contribute to the difference in job satisfaction. At the same time, however, a higher risk of becoming unemployed reduces individual job satisfaction significantly. Since artists have an increased risk of becoming unemployed, the satisfaction difference between artists and non-artists becomes even larger when this risk is controlled for. The finding that artists are more satisfied with their work than are non-artists may have important policy consequences. It might suggest that, to improve the situation of artists, a greater effort should be made in safeguarding their self-determination and autonomy, and that rules and regulations constraining them should be used with care.

1.4 Cities of Culture

Chapter 3 analyzes whether hosting a European Capital of Culture has an impact on regional economic development or the life satisfaction of the local population. Founded in 1985, the European Capitals of Culture are now regarded as the most prestigious and popular cultural event in Europe (Mittag, 2008). On average, 500 cultural projects are implemented in the year in which the event takes place. The goal of including citizens in the program leads to open-air events being held, a large number of free events, and various projects that are conducted in public spaces. Large investments in infrastructure have been made in most cities hosting a European Capital of Culture. Remodeling public spaces and transportation systems, urban renewal, and the construction of museums and concert halls are claimed to change the appearance of these cities. The total expenditure attributed to the 21 cities analyzed by Palmer (2004a) between 1995 and 2004 ranged between €3.5 and 3.75 billion.

Most studies on mega-events analyze sport events such as the Olympics or the Football World Cup, and furthermore restrict their focus to the economic consequences of these. Little is known about the impact of cultural events on society. Previous economic studies on cultural events have focused on single economic indicators, such as tourism or government spending, disregarding substitution effects or the crowding out of private investment. In contrast, section 3.2.3 shows the impact of hosting a European Capital of Culture on regional GDP per capita and economic growth. Pure descriptive statistics suggest that hosting this event is correlated with GDP per capita and growth in the respective region. However, when estimating multivariate regressions with macro-economic control variables and fixed effects, the correlation disappears. Thus, European Capitals of Culture are hosted in regions with above average GDP per capita, but do not causally affect the economic development in a significant way.

Even a positive impact on GDP per capita would not imply a positive impact on individual utility or social welfare of the regional population. The advantage of the more comprehensive life satisfaction approach is that each individual implicitly weighs the relative importance of advantages and disadvantages of hosting such a mega-event. Surprisingly, using difference-in-difference estimations, all estimates find a *negative* effect on the well-being of the regional population during the event. When a region hosts a European Capital of Culture, the life satisfaction of the local population decreases by

roughly 0.09 on a four-point scale. The size of this effect equals one fourth of the effect of being unemployed (compared to being employed) and is thus quite sizeable. The negative effect during the event might result from dissatisfaction with the high levels of public expenditure, the expected tax burden, transport disruptions, general overcrowding, criminality or an increase in the general price level.

The analysis of various socio-economic groups reveals that more highly educated individuals suffer less from hosting a European Capital of Culture. This result is plausible considering that highly educated individuals tend to attend cultural events more often. The effect on the local population's life satisfaction does not depend on income, but being unemployed roughly doubles the negative effect. On the macro-economic level, it is shown that faster growing regions suffer less from hosting the event.

With respect to the long-term impact, it is shown that hosting a European Capital of Culture does not have an impact on life satisfaction in the years after the event. Endogeneity issues would arise if the events were hosted in regions that are unhappier anyway. However, hosting this event has no effect on well-being in the four years prior to the event, thus ruling out reverse causality problems and positive anticipation effects. The implication of chapter 3 is certainly not that cultural supply is unimportant and should not be increased. However, the consequences of mega-events, whether cultural or sporting, should be considered more carefully. It is concluded that the life satisfaction approach provides new insights on the impact of such mega-events or festivals.

1.5 World Heritage

Chapter 4 of my dissertation provides a comprehensive analysis of the UNESCO World Heritage List from an economic point of view. Since the General Conference of the UNESCO adopted the Convention concerning the protection of the world cultural and natural heritage in 1972, the World Heritage List has become highly popular. It is often regarded as the most effective international legal instrument for the protection of the cultural and natural heritage Strasser (2002, p. 215). At the beginning of 2013, the Convention includes 190 countries, and the World Heritage List comprises 962 sites.[5]

In a first step, positive and negative 8aspects of the List are discussed. There are

[5]See the official homepage of the World Heritage Convention: http://whc.unesco.org/en/list/, accessed on 30.3.2013.

strong positive effects induced by the World Heritage List, in particular since it draws attention to heritage sites and provides protection and conservation to specific objects. Among the negative consequences are the induced substitution, leading to less protection of sites not part of the World Heritage List, the potential deterioration of the sites by excessive tourism, and the creation of an attractive target for destructive efforts in wars and by terrorists. Further questionable aspects include the selection of sites and rent-seeking by the commercial heritage industry and by politicians and bureaucrats pursuing national interests.

In a second step, an empirical analysis of the politico-economic factors that determine the composition of the List is conducted. One especially striking aspect is the highly imbalanced distribution of sites according to countries and continents, which suggests that inappropriate aspects may play a role. Almost 50% of the sites are located in Europe. African countries have a 72% lower probability of having sites entered on the List than European countries. It is shown that legitimate historical reasons, such as historical GDP, population, and the number of years of high civilization, have a significant impact on being included in the List. For example, an increase in the duration of high civilization of 100 years raises the expected number of sites by 4.2%. However, in addition, economic and political factors unrelated to the value of the heritage, such as rent-seeking by bureaucrats and politicians, the size of the tourist sector, the importance of media and the degree of federalism are shown to have an influence on the composition of the List. Interestingly, even countries that have been members of the Security Council for a longer period of time, which indicates an exogenous factor of political importance, have a significantly higher probability of having a larger number of sites on the List.

As a reaction to the imbalanced distribution, the World Heritage Committee launched the *Global Strategy for a Balanced, Representative and Credible World Heritage List* in 1994. An empirical analysis of the impact of this strategy reveals that the imbalance did not decrease and, if anything, increased over time, thus reflecting the inability of the Global Strategy to achieve a more balanced distribution of sites. The Gini coefficient, which reflects the distribution of sites across countries, has risen almost monotonously over time from 0.34 in 1979 to 0.55 in 2009.

In a last step, possible alternatives for protecting heritage are discussed, namely national lists and the market system. By using a comparative institutional analysis, it is

possible to identify the conditions under which these alternative measures are superior in protecting global heritage. The List tends to be beneficial where heritage sites are undetected, disregarded by national decision-makers, not commercially exploitable, and where national financial resources, political control, and technical knowledge about conservation are inadequate. Alternatives such as the market system and national conservation lists are likely to be beneficial where the cultural and natural sites are already popular, markets work well, and where inclusion in the List raises the destruction potential by excessive tourism, in times of war, or terrorist attacks.

After the discussion of proposals to reform the List, a totally new suggestion is offered: randomly selecting the World Heritage sites. To increase acceptance, experts can preselect sites from all applications and weight them by their importance. Choosing the sites randomly, for example by lottery, is fair in the sense that every item has the same probability of being selected, which ensures a broad representation and reduces unwanted political interventions.

Chapter 2

Happy Artists: An Empirical Application of the Work-Preference Model*

2.1 Introduction

The labor market for artists exhibits various peculiar features. Artists earn less, on average, than they would with the same qualifications in other professions. Alper and Wassall (2006), for example, estimated that artists in the United States would earn roughly 10% more as a professional or technical worker. Alper and Wassall (2006) also found that the earnings of artists displayed greater inequality than those of the reference group. Artists also suffer from above-average unemployment and constrained underemployment, such as non-voluntary part-time work and intermittent work (Menger, 2001). In Germany, for example, the unemployment rate among artists is almost 1.5 times higher than among the rest of the population (IAB, 2011). Nevertheless, the field of the arts attracts many young people. The number of students exceeds the available artistic jobs by far. In Germany, for example, art students comprise 3.6% of all students, whereas artists account for only around 1% of the total labor force (Eurostat, 2011). A potential explanation for this labor market paradox is that artistic work might result in exceptionally high job satisfaction. This psychological payoff might compensate, or even overcompensate, for the

*Parts of this chapter are based on Steiner, Lasse and Lucian Schneider (2013). The Happy Artist: An Empirical Application of the Work-Preference Model. *Journal of Cultural Economics*, 37 (2):225-246.

labor market adversities observed. The fact that many people turn to the arts as a leisure activity underpins the belief that artistic work yields high satisfaction. In Germany, for example, 14% of the adult population in 2007 took part in unpaid artistic activities, such as painting, drawing, and sculpture (Eurostat, 2011).

In the social science literature, it has been stated various times that artistic work entails particularly high job satisfaction (see, for example, Abbing, 2002; Menger, 1999). Some authors assert that artists gain a *psychic income* from their work (for example, Adler, 2006; Rengers, 2002; Thurow, 1978). Menger (1999, p. 555) express this as follows. "Artistic work can be considered as highly attractive along a set of measurable dimensions of job satisfaction that include the variety of the work, a high level of personal autonomy in using one's own initiative, the opportunities to use a wide range of abilities and to feel self-actualized at work, an idiosyncratic way of life, a strong sense of community, a low level of routine, and a high degree of social recognition for the successful artists."

In this chapter, we seek to expand the existing literature by conducting the first direct empirical investigation of the utility artists derive from their work. Three renowned panel data sets from Germany, the UK and Switzerland and an international cross-section data set including 47 countries are employed for the analysis. In line with modern happiness research, we use self-reported job satisfaction as proxy for utility derived from work.

We show that artists are, on average, considerably more satisfied with their work than non-artists. This finding corroborates the conjectures from the literature, which assert that artists do not fit the standard economic model of labor supply (Throsby, 1994). We show that artists derive utility and not disutility from work and that they derive less utility from income than other workers. Using the panel structure of the national data sets, we show that the higher satisfaction is not driven by time-invariant individual characteristics, such as personality. Partially, the difference in job satisfaction can be attributed to the higher self employment rate among artists. The proportion of artists who are self-employed is three to four times higher than that of other workers. The remaining difference in job satisfaction is shown to be related to the procedural characteristics of work. Increased variety, on-the-job learning and having autonomy in choosing working hours and place contribute to the difference in job satisfaction. In contrast, an increased risk of becoming unemployed reduces the job satisfaction of all individuals significantly. Since artists have a higher risk of becoming unemployed, the

satisfaction difference between artists and non-artists becomes even larger when holding this risk constant.

The remainder of this chapter is structured as follows. Section 2.2 introduces the underlying work-preference model and discusses the previous literature. Section 2.3 addresses the problem of defining who is an artist. Section 2.4 contains the econometric analysis of the relationship between artistic work and job satisfaction. Section 2.5 shows how procedural aspects drive the increased job satisfaction of artists. Section 2.6 concludes the chapter and discusses shortcomings and future research.

2.2 Artists' Labor Market Choice

2.2.1 Work-Preferences

The labor supply and career choice decisions of artists have long been a central issue in the economics of arts and culture. Throsby (1994) claims that artists do not fit the standard economic model of labor supply. He asserts that artists actually derive utility and not disutility from work, as assumed by standard economics. His second assumption states that artists derive less utility from income than other workers. His work-preference model, which describes the labor supply of artists, is based on these assumptions. The model rests on further assumptions. It is assumed that individuals who allocate their time can choose to supply labor to two labor markets, the artistic and the non-artistic. The hourly wage is lower in the artistic labor market than in the non-artistic one. A consumption constraint requires a minimum level of income for physical survival. Individuals maximize their labor supplied to the artistic labor market and are subject to a subsistence consumption constraint. As a consequence, they might be forced to supply some labor to the better-paying non-artistic labor market.

Throsby (1994) tests the hypotheses derived from his model with data from a 1988 Australian survey elaborated specifically for artists. The survey was conducted with a random sample of artists who cover all art forms. Individuals were counted as artists if they were engaged in artistic work at the time of the survey or had been in the previous three to five years. Throsby estimates hourly arts and non-arts wages for the survey participants based on their level of education and training. The assumption of the work-preference model that the non-arts wage is higher than the arts wage holds for 80% of the

individuals. Standard economic theory predicts that this group would supply no labor to the artistic labor market in an attempt to maximize their income. Only 2% of the members of the group did not provide artistic work at the time of the survey. 98% of the individuals spent time on artistic work (on average half their working time) even though they could earn more by allocating all their working time to non-artistic work. In the United States, similar results were found by Robinson and Montgomery (2000) using data from a 1989 survey on artists. The respondents in this sample also earned much less, on average, per hour of artistic work than per hour of non-artistic work. In line with the results from Australia, they also allocated about half their working time to artistic work. These findings corroborate the basic hypotheses of the work-preference model that artists derive high utility from artistic work, while income is less important to them.

Cowen and Tabarrok (2000) developed a particularly interesting extension of Throsby's model. In the model of Cowen and Tabarrok (2000), artists are faced with the choice of producing either art for the market or art that pleases themselves. While the market can generate higher pecuniary benefits, artists also derive utility from critical praise or from creating works that speak to them personally. Refinements of this model include reproducibility and market size aspects. Similar to Throsby's model, they predict that economic growth will increase the number of artists.Cowen and Tabarrok (2000) emphasize that artists are not unique in deriving non-pecuniary benefits from particular forms of labor, a circumstance which will be discussed in section 5.2.[1]

2.2.2 Labor Market

Several empirical findings indicate the validity of the work-preference model and the more general hypothesis that artistic work provides high job satisfaction. In one of the most extensive works on the labor market of artists, Alper and Wassall (2006) investigate quasi-panel data from seven US censuses and panel data from the US National Longitudinal Survey of Youth. Alper and Wassall (2006) show that artists suffer a substantial earnings penalty. Even with individual characteristics such as education, gender or age held constant, artists earn significantly less than the members of the reference group.[2] Alper and

[1]For a more general discussion on non-pecuniary benefits from work, see also the early works on psychic income by Thurow (1978, 1980) or Katz and Syrquin (1982).

[2]The same result was found for Australian artists with data from an extensive survey targeted specifically at artists, see Withers (1985).

Wassall (2006) also find that the earnings inequality among artists is greater than that of the reference group. This finding was supported with data from the German *Mikrozensus* (Haak, 2005). In order to explain these findings, Alper and Wassall (2006) rely on classical economic theory. They argue that the results are consistent with artists being risk-loving, an explanation which was originally suggested by Santos (1976). Risk-loving individuals enter artistic labor markets because they are winner-take-all markets, also known as superstar markets. The general theory of superstar markets was first developed by Rosen (1981) and has also been applied to the artistic labor market by Adler (2006, 1985) and Frank and Cook (1995). In section 2.4 we show that the inferior outcomes for artists concerning pay can also be explained with compensating differentials in the form of higher job satisfaction.

According to the existing literature, artists suffer more frequently from unemployment than the members of other occupational groups (Menger, 2001; Haak, 2005; Alper and Wassall, 2006). Artists seem to be subject to several forms of constrained underemployment, such as non-voluntary part time work and intermittent work (Menger, 2001). According to Menger (2006), these outcomes suggest that there is an oversupply of artists and that this oversupply of artists is a phenomenon reaching far back in history. In section 2.4, we explain this result by observing that artistic work provides particularly high job satisfaction, which is anticipated by the labor market entrants. Towse (2006, 1992) suggests an explanation based on insights from behavioral economics: individuals tend to enter the artistic labor market too frequently because they overestimate the likelihood of future success. Alper and Wassall (2006) do not consider Towse's explanation credible for the steady oversupply of artists found in their data. It is questionable if the information asymmetries on the labor market could persist over a long period.

Most artists seem to be unable to generate sufficient income solely from doing art. They devote a substantial amount of time to non-artistic part-time work (Haak, 2005; Throsby and Hollister, 2003; Robinson and Montgomery, 2000). In their main artistic position, they work fewer hours, on average, than other professionals, but this gap has narrowed over recent decades (Alper and Wassall, 2006). At the same time, the premium of a college or higher-level education has risen in the non-artistic labor market. Compared to other workers, artists, on average, achieve higher levels of education. These findings corroborate Throsby's work-preference theory. One of its predictions is that an increase in

the non-arts wage will induce the artists to spend more time on artistic work and less time on the non-arts part-time work which they do not desire. The reason for that peculiarity is that the subsistence consumption constraint can then be satisfied with less time spent on non-arts work.

In summary, the artistic labor market exhibits some characteristics consistent with the work-preference model and the general hypothesis that artistic work entails high job satisfaction. However, the existing empirical evidence of artists' utility derived from work is only indirect. The contribution of this chapter lies in the first direct measurement of artists' job satisfaction.

2.2.3 Happiness Research

The application of reported subjective well-being in economic research has become increasingly common over recent years (see, for example, Frey, 2008b; Layard, 2011). This development is also reflected in the field of labor economics, where researchers increasingly use reported job satisfaction to measure non-monetary benefits from work (Benz and Frey, 2008). In psychology, the usage of subjective job satisfaction has a longstanding tradition (D'Addio et al., 2007; Kahneman and Thaler, 1991). We follow this line of research and use self-reported job satisfaction to proxy utility from work.

The usage of reported job satisfaction as a measure of utility from work is accompanied by substantial advantages over the traditional usage of compensating wage differentials. Wage differentials adequately reflect non-pecuniary rewards from work only if the labor market is sufficiently competitive, while job satisfaction differentials are able to detect non-pecuniary rewards even if inefficiencies exist (for example, if there are extractable rents in the labor market). Further, there are more general advantages of reported job satisfaction as a measure of well-being. Subjective measures of satisfaction recognize that everyone has his or her own ideas about individual happiness. The measure is an easy and direct one, and the available data comprise a large number of countries and periods. While indirect measures reflect decision utility, subjective measures also represent experienced utility (Frey, 2008b).

Subjective measures of well-being have been criticized, since they are prone to a multitude of systematic and non-systematic biases. The indicators may depend on the mode of interview, the order and the wording of questions, the scales applied, the mood of the re-

spondents at the time of the interview and the selection of information processed. Human genes may predetermine psychological characteristics. Cross-country comparisons may be misleading due to different interpretations of the words "happiness" and "satisfaction" (Bertrand and Mullainathan, 2001). Varying norms or expectations between individuals or over time may bias satisfaction estimates. Hamermesh (2001) finds, for example, that the influence of early-career expectations on job satisfaction disappears with time. Green (2007) states that people's assessments of their own situation are affected by norms, which themselves are unobserved and determined by societal and historical factors. Therefore, measuring long-term trends in job satisfaction in a population assumes that the norms against which satisfaction is measured change only slowly or not at all. Furthermore, individuals might report the satisfaction level they are expected to have, given their status, or the level others consider them having (Frank, 2005). Some researchers recognize job satisfaction as subjective measure, but doubt whether it captures well-being derived from work as a whole. They evaluate job quality by examining the skills involved, work effort, and workers' discretion, pay and job security besides job satisfaction. (Hamermesh, 2001; Green, 2007). Finally, neo-classical objectivists claim that utility can only be inferred from behavior.

However, the psychological literature has repeatedly shown that reported satisfaction measures exhibit great validity and reliability. Subjective well-being is moderately stable but sensitive to changing life circumstances (see, for example, Sandvik et al., 1993; Ehrhardt et al., 2000). The verbal levels in questionnaires are successfully translated, on average, into numerical values, a fact which supports the validity of the happiness scale level (Van Praag, 1991). Further validation comes from physiological and neurological measures, such as brain activity (e.g. Pugno, 2004). Large samples of randomly surveyed people render any potential biases non-systematic (Di Tella and MacCulloch, 2006). Socio-demographic factors are usually controlled for in the econometric estimations model to reduce biases stemming from unobserved heterogeneity between individuals. Studies from economics support the validity of reported job satisfaction by showing its ability to predict future quits (for example, Clark, 2001) and its correlation with absenteeism (Clegg, 1983). Happiness researchers have concluded that, even though there are some disadvantages to reported satisfaction measures, the present state of the literature suggests that they constitute a satisfactory empirical approximation to individual utility Frey (2008b).

2.2.4 Job Satisfaction

The general literature on the determinants of job satisfaction is ample. The older literature stems mainly from psychology and sociology (for an excellent review, see Warr, 1999).[3] Economists' interest in job satisfaction is relatively young, but in recent years the economic literature on the subject has grown rapidly. Closely related to our work is the study by Benz and Frey (2008) on the impact of self-employment and firm size on job satisfaction. They show that the self-employed are more satisfied with their work than the employed, and those employed in small firms are more satisfied with their work than those employed in large firms. Benz and Frey show that these effects are driven by the greater independence and autonomy that the self-employed and employees in small firms enjoy and not by differences in income or working hours. These results hint at the importance of procedural utility. People seem to value not only outcomes but also the processes leading to outcomes.

The determinants of job satisfaction are likely to change over time, induced by major transformations of modern economies such as the growth of service industries since the 1970s. Green (2007) points out the contrast between the increasing wealth in national economies and the ambiguous changes occurring in the quality of jobs. Over the last decades, job quality has improved as many workers have done more skilled, and so more fulfilling, work. However, workers have also experienced a deteriorating work-life balance and increased workplace stress due to effort intensification, rising insecurity and decreasing autonomy. These aspects are likely to account for a part of the difference between employed and self-employed workers.

D'Addio et al. (2007) estimated the effects of classical control variables on job satisfaction. He uses two specific ordered logit fixed effects estimators and a more traditional random effects ordered probit estimator for comparison. The effects of central economic factors are the same as in previous studies. The correlation of job satisfaction and income is positive while the correlation with working hours is negative. This supports most happiness researchers' concept of the satisfaction equation as the empirical counterpart of a utility function in which pay and working hours are the arguments (Kristensen and Johansson, 2008; D'Addio et al., 2007).

[3] A shortcoming of this literature is that it usually only uses cross-sectional data, so unobserved individual heterogeneity is rarely accounted for (D'Addio et al., 2007).

To complement these two traditional measures Clark evaluated a variety of job characteristics (Clark, 1998). He identified four additional aspects measuring job quality: 1) future prospects (promotion and job security); 2) how hard or difficult the job is; 3) the job content: interest, prestige and independence, and 4) interpersonal relationships with co-workers and with management. The regression analysis shows that overall job satisfaction is strongly correlated with all of these job quality measures.

To the best of our knowledge, this is the first empirical study that focuses on artists' job satisfaction. The only study somewhat related is that by Rose (2007), which compares occupational groups with respect to job satisfaction. A raw comparison of average job satisfaction scores shows that artists rank relatively high (10th of 81 occupational groups). Since the study does not focus on artists, their job satisfaction is not further investigated.

2.3 Definition of Artists

2.3.1 Literature

The results of empirical studies on artists depend crucially on the definition of artists used (Bille, 2010). Most professions feature a formal system of recognition that makes it easy to determine their members. However, in most advanced economies, everyone is free to call himself or herself an artist (Frey, 2003). Hence, any study on artists is confronted with the problem of determining who is an artist and who is not. Frey and Pommerehne (1989, pp. 146) state that there are at least eight criteria to define who is an artist and that it is also common to combine these criteria.[4]

1. The amount of time spent on artistic work
2. The amount of income derived from artistic activities
3. Reputation as an artist among the general public
4. Recognition among other artists
5. The quality of the artistic work produced
6. Membership in a professional artists' association

[4]For applications of other definitions see, for example,Throsby and Hollister (2003); Throsby (2001).

7. Professional qualifications (graduation in art schools)

8. Self-evaluation as an artist

All these ways of defining an artist have particular drawbacks. The amount of time spent on artistic work is often hard to assess and rarely used in practice (Bille, 2010). Using the amount of income derived from artistic activities as a definition is strongly disputed as well. This criterion is very appealing to economists because it relies on the objectivity of the market, but it also has serious shortcomings. As discussed in section 2.2.2, most artists earn a substantial part of their total income from non-artistic work, and some artists receive no income at all from their artistic work over significant periods of their lives (Throsby, 2001). Hence, the second criterion disregards several groups of people that could reasonably be viewed as artists.

The third, fourth, and fifth criteria all take into account the quality dimension of the artistic output, but also have their disadvantages. They are subjective and produce a strong bias toward highly visible and esteemed artists. Reputation is short-lived, as it is socially constructed and constantly re-evaluated. A famous example is that the impressionists would probably not have counted as artists, as they were disregarded by the contemporary art world (Karttunen, 1998). Using membership in a professional artists' group or association as a definition also has shortcomings. Different artists' associations (musicians, visual artists, actors, etc.) demand very different qualifications for membership. Some of them are quite elitist, whereas others apply very open prerequisites. Besides that, many artists will not be captured, as their degree of organization is low (Bille, 2010; Throsby, 2001). The sixth criterion also produces a conservative bias as mainly people from the established art world join artists' associations (Bille, 2010; Karttunen, 1998). The seventh criterion, professional qualifications, is not applicable to fields of art where formal training is not common or does not exist at all. Writers, for example, do not necessarily have to attend an art school, and many artists are autodidacts (Frey and Pommerehne, 1989).

Subjective self-evaluation of being an artist has the advantage of not being elitist (Karttunen, 1998).[5] The eighth criterion helps to spot emerging artists that would not meet the qualifications of the previous, more traditional criteria. However, it is purely subjective and therefore includes many individuals who would not be considered as artists by common sense, such as poets who do not want or are not able to publish their poems (Frey and Pommerehne, 1989).

Bille (2010) suggests a reduced set of three criteria to define who is an artist:

1. Working in the creative industry
2. Having a creative job content
3. Having a creative education

Bille does not judge which of these criteria should be preferred but states that they constitute different perspectives from which artists can be studied. There is no consensus among other researchers on the question of which criteria should be used to define artists. The only consensus seems to be that there is no ex-ante correct definition of artists because no criterion or combination of criteria qualifies everywhere (Throsby, 2001; Karttunen, 1998; Frey and Pommerehne, 1989). The criterion, or the combination of criteria, should be selected depending on the purpose of the study and the availability of data. Cultural economists should state their selection of artists explicitly, and should discuss the bias that the chosen definition might imply (Bille, 2010).

2.3.2 Performing & Visual Artists

This study is based upon a cross-sectional data set from Europe and three panel data sets from Germany, Switzerland and the UK. Each working individual in these datasets has to report one principal occupation and in some cases one extra occupation. Extended information, such as the hours worked, income and satisfaction, is available on the principal occupation, whereas only limited information is available on the extra occupation. Therefore, we focus on the principal occupation and do not take into account the extra

[5] In the 1980s, the UNESCO adopted a definition that corresponds to a large degree to the following criterion: "Artist is taken to mean any person who creates or gives expression to, or recreates works of art, who considers his artistic creation to be an essential part of his life, who contributes in this way to the development of art and culture and who is or asks to be recognized as an artist, whether or not he is bound by any relations of employment or association" (UNESCO, 1980, p. 149).

occupation, which nonetheless constitutes a fruitful approach for future research. Consequently, we define individuals with an artistic principal occupation as artists. This definition corresponds to Bille's (2010) second criterion "having a creative job content". Strictly speaking, it only includes the most successful artists, that is, those who are able to make the arts their principal occupation. However, this selection, while necessary, should not imply any substantial biases for our empirical analysis. If anything, our estimations would become more conservative. In the case of a positive correlation of an artistic activity with job satisfaction, those people who have an artistic job as an extra occupation are counted as non-artists, thus increasing the average satisfaction of the non-artists and decreasing the probability of finding a significant effect.

The crucial question is which occupations are to be considered as artistic. We use the two groups of artists most discussed in the cultural economics literature, performing and visual artists. The first set of occupations that we use for the empirical analysis combines both groups and is called Performing & Visual Artists. For a more detailed analysis, we focus purely on performing artists. This set is in the following called Performing Artists. A detailed list of the occupations included in each group is given in Table 2.1. The empirical analysis is performed separately for both definitions, which permits interesting comparisons.

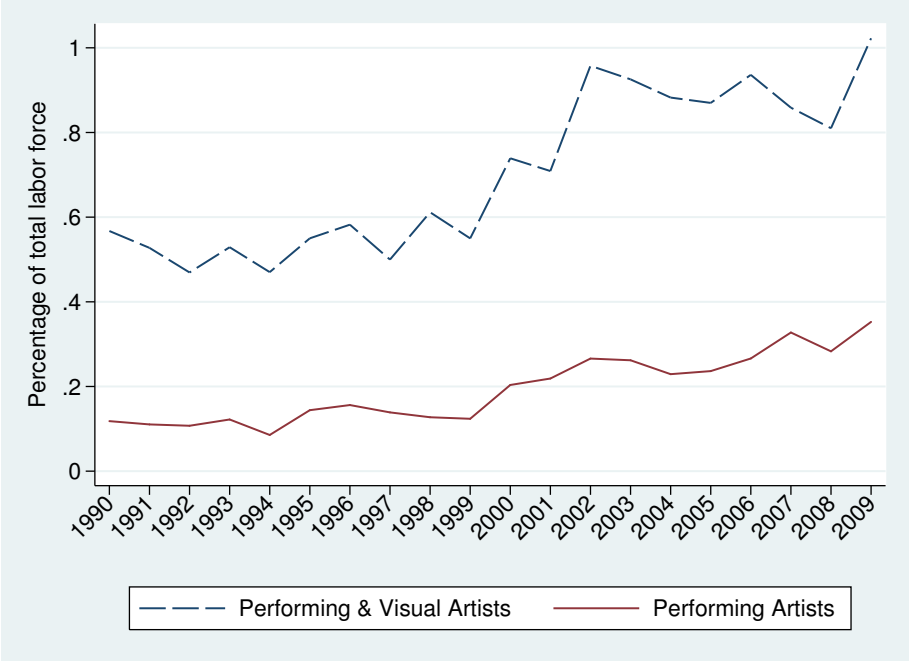
Table 2.1: Occupations Included in the Two Definitions of Artists

	Performing & Visual Artists	Performing Artists
Authors, journalists, other writers (2451)	yes	
Sculptors, painters, related artists (2452)	yes	
Composers, musicians, singers (2453)	yes	yes
Film, stage and related actors, directors (2455)	yes	yes
Photographers, image and sound recording equipment operators (3131)	yes	
Street, night-club and related musicians, singers, dancers (3473)	yes	yes
Clowns, magicians, acrobats, related professionals (3474)	yes	yes

Notes: Occupation code according to the International Standard Classification of Occupations 88 (ISCO-88) in parentheses.

The German dataset spans by far the longest time period of the available datasets. Thus, Figure 2.1, for instance, shows the artists' percentage of the total labor force over the period 1990-2009 in Germany. The average percentages were 0.7% for Performing & Visual Artists and 0.2% for Performing Artists. These percentages are comparable to those presented in other studies, for example, Haak (2005), who indicated a percentage of around 1% for Germany in 2002. Eurostat uses a broader definition, which includes, for example, programming and broadcasting activities. According to estimates on European level (EU-27) in 2009, 3.6 million people were employed in the five main cultural sectors, representing 1.7% of total employment. In Europe, the employment in cultural sectors as a share of total employment varies between 0.8% in Romania and 2.3% in Sweden.

Figure 2.1: Artists' Percentage of Total Labor Force in Germany (1990-2009)



Data source: GSOEP 1990-2009

In Germany the percentages were relatively stable from 1990 to 1998 (Figure 2.1). From 1999 to 2002, both percentages increased markedly. A similar trend has been found in other studies on German artists, for example Söndermann (2004). In 1998, after 16 years of the rule of a right-leaning Christian Liberal coalition, the left-leaning Social Democrats together with the Greens won the federal elections in Germany. The change in government could be one reason for the sharp increase in the percentages after 1998,

because the left-leaning parties traditionally grant more government support to the arts than the right-leaning parties.

2.4 Estimations and Results

2.4.1 Data

The empirical analysis below is based on four different datasets. The European Value Study (EVS) is a repeated cross-section dataset comprising 47 countries (see Table A.1). We use data from the third (1999) and fourth (2008) wave of this survey. Only these two waves contain information on occupation which is specific enough to identify artists (ISCO 88-codes). To hold unobserved, time-invariant characteristics constant, we use three different national panel datasets. The German Socio Economic Panel (GSOEP), the British Household Panel Survey (BHPS) and the Swiss Household Panel (SHP) each have a panel data structure which can be exploited to hold unobserved, time-invariant characteristics constant. The GSOEP includes the years from 1990 to 2009, the BHPS from 2001 to 2008 and the SHP from 1999 to 2010.

The following questions are asked about job satisfaction:

- EVS: "Overall, how satisfied or dissatisfied are you with your job?" Individuals are asked to respond on a scale from 0 (totally unsatisfied) to 10 (totally satisfied);
- GSOEP: "How satisfied are you today with the following areas of your life: your job?" Individuals are asked to respond on a scale from 0 (totally unsatisfied) to 10 (totally satisfied);
- SHP: "On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? - Your job in general";
- BHPS: "All things considered, how satisfied are you with your present job overall using the 1-7 scale"

All datasets contain detailed and carefully collected information on the occupation, income, working hours (except for the EVS), education, and other individual and work-related aspects. Nonworking individuals are excluded from the sample because the de-

pendent variable is the satisfaction with work. Apart from occupation, various control variables are used, such as age, gender and year dummies. This makes it possible to hold a multitude of characteristics constant when assessing job satisfaction differences between artists and non-artists. In our empirical analysis, job satisfaction is related to several explanatory variables.[6] The main explanatory variables in all datasets are the dummies Performing & Visual Artists and Performing Artists. They take the value of 1 when individuals state a principal occupation out of the lists given in Table 2.1, and 0 when individuals state another principal occupation.

2.4.2 Basic Results

In the following, we test the hypothesis that artists derive a higher satisfaction from their work with the international cross section dataset and the three national panel datasets from Germany, Switzerland and the UK. Table 2.2 shows descriptive statistics from the different datasets on the average in job satisfaction of artists and non-artists. Both groups of artists exhibit a significantly higher job satisfaction than non-artists in all datasets. In the European cross-section dataset (EVS), the average happiness of artists is higher in 36 of 47 countries. In all three national panel datasets, GSOEP, SHP and BHPS, artists are significantly more satisfied than non-artists, and performing artists are more satisfied than the whole group of performing and visual artists.

Raw job satisfaction differences might reflect many characteristics that distinguish artists from non-artists. The multivariate regressions presented in Table 2.3 hold a multitude of such characteristics constant. In the national datasets (column 3 to 8, Table 2.3) the following micro-econometric happiness equation is estimated by

$$Y_i = \beta_0 + \beta_1 ART_i + \beta_2 X_i + T_t + \varepsilon_i \tag{2.1}$$

where the dependent variable Y_i is individual self-reported job satisfaction. ART_i is the main explanatory variable; it takes the value 1 when individuals are artists in their principal occupation, and 0 when they state another principal occupation. The vector X_i includes the most frequently used control variables in studies on job satisfaction, such as pay, working hours, gender, education, and age. The exact regression specification of each dataset differs slightly due to the availability of control variables. The regressions

[6] Detailed descriptions are given in Table A.1 in the Appendix.

Table 2.2: Mean Job Satisfaction Scores in Europe

	Non-Artists	Performing & Visual Artists	Performing Artists
International data			
Europe (47 countries)	7.32	7.70***	7.58***
Country data			
Germany	7.06	7.32***	7.67***
Switzerland	8.08	8.23***	8.53***
UK	5.45	5.49	5.69***

Notes: Average job satisfaction on a scale from 1 (total dissatisfaction) to 10 (total satisfaction); in the UK, the scale ranges from 1 to 7. The differences are tested with a two-sided t-test. Standard errors in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: EVS 1999 & 2008, GSOEP 1990-2009, SHP 1999-2010, BHPS 2001-2008

are estimated with an OLS model. The national regression models 3 to 8 in Table 2.3 use robust standard errors ε_i, corrected for repeated observations on individuals. The regression estimations 1 & 2 of Table 2.3 do not employ robust errors since the European repeated cross section dataset EVS is not a panel dataset and does not contain the same individuals over time. All specifications (column 1 to 8 Table 2.3) include year dummies T_t. The international cross-section estimations also include country dummies. Strictly, job satisfaction is an ordinally scaled variable, which would suggest the use of an ordered response model. However, OLS models have the advantage that the estimated coefficients are easier to interpret, and previous research shows that they are a close approximation of estimations of job and life satisfaction (Ferrer-i Carbonell and Frijters, 2004).[7]

The regression results in Table 2.3 confirm that artists are more satisfied with their jobs than non-artists, even when a multitude of work aspects are controlled for. In the international regression (Europe) and in all three single countries (UK, Switzerland, Germany), the Performing Artists are significantly more satisfied with their jobs (columns 2, 4, 6 and 8 in Table 2.3). The group of Performing & Visual Artists, together are more satisfied in all regressions, and also significantly so, except for Germany (column 8, Table

[7]To ascertain this, we also estimated the regressions with an ordered logit model. As expected, the results remained largely unchanged.

2.3), where the coefficient is positive but not significant.[8] The effect of being an artist is sizable. In the international EVS estimation, the coefficient of around 0.3 (on a scale from 1 to 10) is comparable to the coefficient of being self-employed.

Self-employment is positively and significantly correlated with job satisfaction. Without this variable, the effect of being an artist is much stronger. One explanation for this is that artists are substantially more often self-employed than non-artists. The percentages of the self-employed, for example, in Germany are 35% (Performing & Visual Artists) and 40% (Performing Artists) compared to Non-Artists at 9%. Self-employment has been repeatedly found to have a positive effect on job satisfaction (e.g. Benz and Frey, 2008), which is also confirmed in the regressions from Table A.3 of the Appendix. The reason for this relation is that the self-employed enjoy greater independence and autonomy, on average, than the employed (Benz and Frey, 2008). We explore this circumstance in more detail in section 2.5. The other control variables show the expected results (positive correlation of income and job satisfaction, negative correlation of working hours and income) and are not discussed here.[9]

The effect of being an artist is sizable and comparable, and the control variables included in the regressions of Table 2.3 cannot completely explain why artists are more satisfied with their jobs than non-artists. There seem to be further aspects related to artistic work itself that make artists happier in their jobs.

[8]The insignificance is a result of the relatively large standard errors. These are partly due to the rather small number of artists in the sample and the usage of a conservative estimation method (robust, corrected for repeated observations on individuals).

[9]The results for the most relevant control variables are shown in the example of Germany in Table A.3 of the Appendix.

Table 2.3: Job Satisfaction Differences Between Artists and Non-Artists in Europe: Pooled Cross-Section Regressions

	(1) Europe	(2) Europe	(3) UK	(4) UK	(5) Switzerland	(6) Switzerland	(7) Germany	(8) Germany
Visual & Performing	0.289***		0.148**		0.163*		0.147	
	(2.709)		(2.182)		(1.773)		(0.1008)	
Performing		0.299*		0.557***		0.285*		0.539***
		(1.649)		(4.626)		(1.665)		(0.181)
Non-Artists	Reference group							
Constant	7.176***	7.177***	4.982***	4.982***	8.755***	8.752***	6.082***	6.079***
	(53.41)	(53.42)	(32.42)	(32.43)	(90.50)	(90.47)	(44.18)	(44.16)
Socio-econ. controls	yes	yes	yes	yes	yes	yes	yes	yes
Wave fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	41,899	41,899	63,857	63,857	23,950	23,950	173,491	173,491
R^2	0.080	0.080	0.028	0.028	0.036	0.036	0.022	0.022

Notes: Dependent variable job satisfaction, scale 1-10, except (3) & (4): scale 1-7. The pooled cross-section OLS regressions 3-8 include robust standard errors (corrected for repeated observations of individuals), the t-statistics are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Columns (1) & (2) include control variables for age, age^2, gender, monthly income, education, country and wave fixed effects. Columns 3 & 4 include control variables for age, age^2, gender, monthly income, weekly hours worked, tenure, tenure squared, firm size, education and wave specific effects. Columns 5 & 6 include control variables for age, age^2, gender, monthly income, weekly working hours and education. Columns 7 & 8 include control variables for age, age^2, gender, monthly income, weekly working hours, education, tenure, tenure squared, firm size and wave fixed effects. *Data source*: EVS 1999 & 2008, BHPS 2001-2008, SHP 1999-2010, GSOEP 1990-2009.

2.4.3 Interactions with Income and Working Hours

In this section we address two fundamental assumptions of Throsby's (1994) work-preference model. The first hypothesis is that artists derive a positive utility from work and not a negative utility, as assumed by neo-classical economics. Throsby assumes that, ceteris paribus, an additional unit of working time increases the utility of artists. In order to test this hypothesis, we allow for an artist-specific effect of working hours on job satisfaction. In Table 2.4 the variable working hours is interacted with the dummy of Performing & Visual Artists. The second hypothesis that we test states that artists derive less utility from income than other workers. To test this hypothesis, we allow for an artist-specific effect of income on job satisfaction. Therefore in Table 2.4, the income variable is interacted with the artist dummies.

Table 2.4 shows the regression results with interaction terms for the example of the German dataset (GSOEP). This dataset is the most comprehensive, containing the most artists and the longest period. The results also hold for the other datasets. The same pooled cross-section specifications are estimated as in columns 7 and 8 of Table A.3. The only difference is that interaction terms for income and working hours are included and that we disregard squared working hours. The coefficients of the variable Working hrs. per week represent the correlation of working hours and job satisfaction for non-artists alone. They show that, for non-artists, working hours are negatively and statistically significantly correlated with job satisfaction. Hence, the effect of working hours on non-artists' utility corresponds to the assumptions of standard economics.

The coefficients of the interaction terms of working hours with the artists' dummies are positive and statistically significant for both groups of artists (columns 1 and 2, Table 2.4). The correlation of working hours and job satisfaction seems to differ between artists and non-artists. The total effect of working hours on artists' job satisfaction can be obtained by summing the coefficients of Working hrs. per week and the coefficients of the interaction terms. The sum is positive for both groups of artists. For Performing & Visual Artists, the coefficients add up to 0.0073, while for Performing Artists, the sum is 0.0120.[10] These numbers represent the marginal correlation of working hours and job satisfaction for artists. In contrast to non-artists, the effect of working hours on

[10]For Performing & Visual Artists the sum is -0.0104 + 0.0177 = 0.0073; for Performing Artists the sum is -0.0103 + 0.0223 = 0.0120.

the artists' job satisfaction is positive. This result corroborates Throsby's assumption that artists actually derive utility from work and not disutility, as assumed by standard economics. A special treatment of artists in the theoretical modeling of labor market behavior seems warranted.

Table 2.4: Job Satisfaction Differences between Artists and Non-Artists in Germany: Pooled Cross-Section Regressions with Interaction Terms

	(1)	(2)
	Performing & Visual Artists	Performing Artists
Working hrs. per week	-0.0104***	-0.0103***
	(-11.82)	(-11.74)
Performing & Visual Artists x Work.hrs.	0.0177**	
	(2.419)	
Performing Artists x Work.hrs.		0.0223*
		(1.755)
Total gross income (log)	0.4066***	0.4048***
	(23.83)	(23.80)
Performing & Visual Artists x Tot.gr.inc.	-0.2615**	
	(-2.349)	
Performing Artists x Tot.gr.inc.		-0.2338
		(-1.213)
Socio-econ. controls	yes	yes
Wave fixed effects	yes	yes
Observations	173'491	173'491
R^2	0.022	0.022

Notes:Dependent variable job satisfaction, scale 1-10. The pooled cross-section OLS regressions include robust standard errors (corrected for repeated observations of individuals), the t-statistics are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. The regressions include control variables for age, age^2, gender, monthly income, weekly working hours, education, tenure, tenure squared, firm size, self-employment, and wave fixed effects. *Data source*: GSOEP 1990-2009

The coefficients of the variable Total gross income (log) represent the correlation of income and job satisfaction for non-artists (see Table 2.4). Income and job satisfaction for non-artists are significantly positively correlated, as anticiptated by classical economics. The coefficients of the interaction terms of the artist dummies with income are negative for

both groups of artists and statistically significantly so for Performing & Visual Artists. Thus, the correlation of income and job satisfaction differs between artists and non-artists, at least in the case of Performing & Visual Artists (column 1), Table 2.4). The coefficient of Performing Artists is not statistically significant but of similar magnitude as the coefficient of the other group (column 2, Table 2.4). One reason for the statistical insignificance is likely to be the small number of observations on Performing Artists. The total effect of income on job satisfaction for artists can be obtained by summing up the coefficients of the variable Total gross income (log) and the coefficients of the respective interaction terms. The sum is positive for both groups of artists. For Performing & Visual Artists the coefficients add up to 0.1451; for Performing Artists the sum is 0.171. These numbers represent the marginal correlation of income and job satisfaction for artists. Thus, for artists and for non-artists, the correlation of income and job satisfaction is positive. However, compared to non-artists the correlation is substantially smaller for artists. In the case of Performing & Visual Artists, the correlation is less than half than the correlation of non-artists. The finding corroborates Throsby's assertion that artists derive less utility from income than other workers. This holds especially for Performing & Visual Artists, for whom the coefficients of the interaction terms exhibit statistical significance.

These interaction effects show that the weighting of the importance of work outcomes differs between artists and non-artists. In the following, we discuss and test the hypothesis that differences in personality are the driver for the increased job satisfaction of artists.

2.4.4 Personality Traits

The psychological literature describes personality as an important predictor of job satisfaction (Diener et al., 1999; Warr, 1999). The favorite taxonomy to describe human personality is the Five-Factor Model, often also called the Big Five, which has proven to be comprehensive, robust and replicable. The five factors are openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism (McAdams and Pals, 2006;

Larsen and Buss, 2008).[11] Evidence from the psychological literature shows that artists exhibit increased openness to experience, extraversion and neuroticism, decreased conscientiousness and no clear results with respect to agreeableness (for example, Feist, 1998; Nelson and Rawlings, 2010; Nettle, 2006; Rubinstein and Strul, 2007).

The psychological literature is relatively unequivocal concerning the correlations of the Big Five factors with job satisfaction (see for example, Bruk-Lee et al., 2009; Judge et al., 2008, 2002). While neuroticism correlates strongly negatively with job satisfaction, conscientiousness and extraversion are strongly positively related to satisfaction with work. Agreeableness and openness to experience does not seem to correlate with job satisfaction. Thus, the influence of the typical artistic personality traits on job satisfaction is unclear. The high value in neuroticism and the low value in conscientiousness speak for a negative influence on satisfaction. The high value in extraversion speaks for a positive influence. Which effect dominates remains an empirical question.

The research on artists' personality factors is complemented by studies on the mental health and suicide rates of artists. Mentally ill, or unhappy, artists, such as Charles Dickens, Virginia Woolf, Edvard Munch, Vincent van Gogh, Franz Schubert or Gioachino Rossini, have received considerable attention in the public, in art history and philosophy (see for example, Ludwig, 1995; Jamison, 1993; Rothenberg, 1990; Richards, 1981; Becker, 1978). However, there are few serious empirical analyses devoted to the subject. A review paper by Waddell (1998) considers 29 studies devoted to the possible relationship between creativity and illness. It thus considers a pool of individuals consisting not only of artists. Fifteen of these studies find no evidence linking creativity to mental illness, nine find a positive relationship, and five have unclear findings. The author concludes: "There is limited scientific evidence to associate creativity with mental illness" (p. 166). The persistent popularity of the link may be romantically rooted in society's need to regard both genius and mental illness as "deviant" (see for example, Becker, 1978). Focusing solely on artists, Jamison (1993) finds that they suffer overly frequently from mood disorders such as depression and bi-polar disorder.

Preti and Miotto (1999) have studied suicide among eminent artists. Using a sample

[11] For an overview of the characteristics of the Big Five see for example (Larsen and Buss, 2008). To summarize some traits: Individuals with high openness to experience are curious, flexible, imaginative, and open-minded. People who exhibit high neuroticism are anxious, depressed, and emotionally labile. Individuals with high extraversion are assertive, expressive, and sociable. Highly agreeable persons tend to be cooperative, easy-going, empathic, and friendly. Individuals with high conscientiousness are organized, controlled, enduring, reliable and reasonable.

of 3093 eminent artists whose deaths occurred in the 1800s and 1900s (writers, poets, playwrights and comedians, architects, painters and sculptors), the authors find a suicide ratio of 1.90%. This is significantly different from that of the general population, where the suicide ratio is clearly lower (0.01-0.05%). Likewise, Stack (1997) and Ludwig (1995) find evidence of a markedly higher risk of suicide among individuals working in the artistic professions. Even though some studies in the literature find a higher prevalence of mental disorders or suicide rates among artists than among the general population, the majority of eminent artists do not suffer from mental disorders and do not commit suicide.

In general, the psychological literature on artists' personalities does not investigate the direction of causality and uses simple cross-section estimations. The positive correlation between being an artist and job satisfaction observed in our cross-section regression above might suffer from endogeneity biases. Special unobserved personality traits or other omitted time-invariant factors might cause artists to be happier with their jobs, irrespective of their occupations. If these factors truly had a positive effect on job satisfaction, the estimated coefficients in the pooled OLS regressions would not reflect benefits from artistic work but time-invariant factors which differ between artists and non-artists. The panel structure of the SHP, BHPS and GSOEP national datasets permits us to track individuals over time and to investigate how the job satisfaction of the same individuals changes when they move into or out of the artistic work. The panel data analysis covers dynamic aspects and allows for heterogeneity between individuals.

In Table 2.5, regressions with fixed effects are estimated which control for time-invariant individual characteristics. The results indicate that the job satisfaction effects of artistic work are a robust phenomenon. In all regressions (columns 1 to 6, Table 2.5), the coefficients of belonging to either group of artists are positive. In the UK and Switzerland, the coefficients are highly significant.[12] These results indicate that there is no systematic selection of artists with respect to time-invariant characteristics which would lead to the increased happiness in the pooled cross-section regressions. Personality differences, either as reflected by the Big Five factors or other omitted time-invariant characteristics, which are correlated with increased happiness and cause individuals to become artists, do not seem to be the cause for artists' increased job satisfaction.

[12]While the coefficients for Germany (column 5 and 6, Table 2.5) are insignificant, they are still positive and of roughly the same size as in the cross-section estimations. The insignificance in the fixed effect models might be a technical result due to larger standard errors. The German data include relatively few individuals who change from being an artist to being a non-artist (or vice versa).

Table 2.5: Job Satisfaction Differences between Artists and Non-Artists in the UK, Switzerland and Germany: Fixed Effects Regressions

	(1)	(2)	(3)	(4)	(5)	(6)
	UK	UK	Switzerland	Switzerland	Germany	Germany
Visual & Performing	0.224***		0.365*		0.155	
	(2.790)		(1.923)		(0.1075)	
Performing		0.519**		0.879***		0.169
		(2.472)		(2.810)		(0.2364)
Non-Artists				ref. group		
Constant	5.083***	5.089***	9.576***	9.567***	6.223***	6.223***
	(34.93)	(34.97)	(32.30)	(32.27)	(41.44)	(41.44)
Socio-econ. controls	yes	yes	yes	yes	yes	yes
Ind. fixed effects	yes	yes	yes	yes	yes	yes
Observations	63,857	63,857	23,950	23,950	173,491	173,491
Number of ind.	14,039	14,039	8,763	8,763	28,677	28,677
R^2	0.028	0.028	0.007	0.008	0.004	0.004

Notes: Dependent variable job satisfaction, scale 1-10, except colums 1 & 2: scale 1-7. The OLS regressions are estimated with individual fixed effects, the t-statistics are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Columns (1) & (2) include control variables for age, age^2, gender, monthly income, weekly hours worked, tenure, tenure squared, firm size, education and wave specific effects. Columns (3) & (4) include control variables for age, age^2, gender, monthly income, weekly working hours and education. Columns (5) & (6) include control variables for age, age^2, gender, monthly income, weekly working hours, education, tenure, tenure squared, firm size and wave fixed effects. *Data source*: BHPS 2001-2008, SHP 1999-2010, GSOEP 1990-2009.

2.5 Procedural Utility

2.5.1 Attitudes Towards Work

These findings show that artists enjoy higher utility from work than non-artists, also when changes in instrumental outcomes such as working hours or income are controlled for. Estimating fixed-effect regressions, which control for unobserved individual heterogeneity, does not alter this result. It seems that aspects of the artistic jobs itself make artists happier in their jobs than non-artists. Detailed questions about an individual's work, especially about procedural aspects, are rarely asked in survey questionnaires. The German and British datasets (GSOEP and BHPS) only contain very limited information on detailed aspects of the work itself, and if so, only for single years. Including these variables as controls in a regression would strongly reduce the number of observations and would not leave a large enough number of artists in the sample.

However, the European and Swiss datasets (EVS and SHP) contain more information on several work aspects, and in the case of the SHP these variables have existed for several years. In the third and fourth waves (1999 & 2008) of the EVS, individuals were asked detailed questions about their attitudes towards work. Some of these questions concern valuations of outcomes and others procedural aspects of work, that is, processes and conditions leading to outcomes. However, the distinction is not always clear-cut. For example, whether having a job that one considers useful for society is an outcome or a procedural characteristic is disputable. In the EVS, individuals are asked which aspects of work are important to them, so this question rather enquires about attitudes towards work rather than actually realized characteristics. The responses of artists and non-artists are shown in Table 2.6.

The group of performing and visual artists answered that the following aspects are significantly more important to them: having the opportunity to use initiative in their job, having an interesting job, having a job which meets one's abilities, learning new skills during work. These aspects are connected with the process of working, and not with the output. The following aspects are significantly less important to artists: job security, having a job with "good hours", having time off on weekends, chances for promotion and good physical working conditions. Most of these aspects, especially job security and working hours, are work outputs. There are no significant differences between artists and

Table 2.6: Average Importance of Work Aspects in Europe

	Non-Artists	Performing & Visual Artists
Job security	0.689	0.529***
Good hours	0.551	0.455***
Time off in weekends	0.487	0.315**
Family friendly	0.572	0.502***
Chances for promotion	0.399	0.306**
Respected job	0.463	0.408
Useful for society	0.444	0.429
Interesting job	0.676	0.792***
Use initiative	0.491	0.626***
Learning new skills	0.540	0.600***
Meeting abilities	0.624	0.660*
Pleasant people	0.738	0.759
Meeting people	0.501	0.508
Good physical working conditions	0.566	0.437**

Notes: The averages depict the share of people in Europe who stated that the respective aspect of their job is important to them. Individuals were asked: "Please look at the following aspects of your job and tell me which ones you personally think are important in a job?" 0 = not mentioned, 1 = mentioned. The differences are tested with two-sided t-tests. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: EVS 1999 & 2008.

non-artists with respect to the following work characteristics: having a respected job or one which is useful for society, having pleasant colleagues or meeting many people during work.

In sum, there seem to be substantial differences concerning the attitudes of artists and non-artists towards work. Procedural characteristics are significantly more important to artists, while they value work outcomes to be less important than other employees do.

The questions discussed represent attitudes towards certain aspects of work rather than actual circumstances. In order to find out which work aspects increase artists' job satisfaction, it is not possible to include attitudes in the regressions above, since this would lead to endogeneity problems. In the EVS there is only one question about what people

experience in their job, namely "How free are you to make decisions in your job?" (and not "How important is it to you to be free or make decisions in your job?"). Respondents could answer on a scale from 1 (not free at all) to 10 (completely free). The average decision-freedom of artists is 7.54, while non-artists state an average value of 6.51. According to this question, artists are significantly freer to make their own decisions in their job. This factor is likely to contribute to the artists' high job satisfaction, since it has been found to have a positive effect on job satisfaction in previous studies (Warr, 1999; Benz and Frey, 2004).

2.5.2 Procedural Aspects of Work

In the Swiss dataset, SHP, several questions are asked about a person's satisfaction with specific job aspects. According to these questions, artists are, as expected, less satisfied with their financial situation but more satisfied with their work conditions and the work atmosphere. They also state that they fulfill more interesting tasks (see Table 2.7).

The SHP also contains several questions also about *experienced* work aspects. According to these questions, compared to non-artists, artists state that their work and private life interfere more often, that they have a higher risk of becoming unemployed, that they work more often at night and on weekends, that it is more difficult for them to de-connect from work, and that they have more stressful work, but that they enjoy more autonomy concerning where they want to work (if they want to work at home) and their working hours (how long and when they want to work).

The findings from the Swiss SHP are complemented by results from a limited number of GSOEP waves. Artists in Germany stated significantly more often that their job is varied, that they learn more on the job and that they decide more autonomously how to complete the tasks involved in their work. The last result is not surprising, since artists are substantially more often self-employed than non-artists (see section 2.4.2). The self-employed are known to enjoy more independence and autonomy in their jobs than the employed (see e.g. Benz and Frey, 2004). Concerning valuations of work outcomes, artists in Germany are significantly more concerned about their job security than non-artists, but they are not less satisfied with their personal income in a statistically significant way.

Table 2.7: Procedural Aspects of Work in Switzerland and Germany

	Non-Artists	Performing & Visual Artists
Switzerland		
Risk of unemployment: next 12 month (scale 1-10)	1.86	2.27***
Interference work & private life (scale 1-10)	3.79	4.30***
Difficult to de-connect from work (scale 1-10)	3.00	4.06***
Stressful work (1=yes, 0=no)	0.34	0.44***
Work at night (1= yes, 0=no)	0.13	0.28***
Work on weekend (1= yes, 0=no)	0.49	0.80***
Flexible working hours and own decision (1=yes, 0=no)	0.32	0.50***
Work at home (1=yes, 0=no)	0.38	0.73***
Satisfaction: Work conditions (scale 1-10)	7.88	7.92
Satisfaction: Work atmosphere (scale 1-10)	8.49	8.37*
Satisfaction: Interest in tasks (scale 1-10)	8.14	8.73***
Satisfaction: Income (scale 1-10)	7.23	6.63***
Satisfaction: Financial situation (scale 1-10)	7.20	6.73***
Germany		
Job variety (percentage very varied)	59.88	82.79**
On-the-job learning (percentage learns a lot)	35.92	61.48***
Autonomy on tasks (percentage fully autonomous)	38.78	56.56***

Notes: On a scale from 1-10, 10 always denotes a higher value, for example, the highest risk of becoming unemployed or being fully satisfied with working conditions. For Germany we show the percentage of individuals who responded that the respective work aspect applies completely to their work, for example that their work is very varied. For a complete overview of the exact wording of the corresponding questions see Table A.2 in the Appendix. The differences are tested with two-sided t-tests. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: SHP 1999-2010, GSOEP 1995 & 2001.

2.5.3 Channels of Artists' Job Satisfaction

To assess the extent to which these work aspects explain the difference in job satisfaction between artists and non-artists, it is necessary to include job characteristics as control variables in the regressions from Table 2.3. Due to data availability, this is only possible with the Swiss SHP dataset. Table 2.8 shows the regression results, including procedural aspects. In the following specifications, we only show the results for the whole group of performing and visual artists. The baseline effect of being an artist, without accounting for self-employment, is 0.247 (column 1, Table 2.8). Controlling for self-employment reduces the artists' coefficient by one third to 0.163. Self-employment itself is highly significant and positively correlated with job satisfaction. Artists are substantially more often self-employed than non-artists. The percentage of self-employed is 38% among Performing & Visual Artists, while the equivalent share among non-artists is 10%, which is comparable to other European countries. As mentioned above, self-employment has repeatedly been found to have a positive effect on job satisfaction.

In columns 3 to 8 in Table 2.8, additional procedural control variables are added to the model one by one. Having a job that interferes with private life (column 3, Table 2.8), from which it is difficult to de-connect (column 4, Table 2.8), or which is particularly stressful (column 5, Table 2.8) are all negatively correlated with job satisfaction. However, it leaves the artists' coefficient largely unchanged.

An increasing risk of becoming unemployed reduces job satisfaction significantly (column 6, Table 2.8). Including risk as the control variable increases the artists' coefficient by one third to 0.233. Artists have a higher risk of becoming unemployed (Table 2.7). When holding risk constant, the satisfaction difference between artists and non-artists is even larger. Having variable working times and being able to make one's own decision about the working times is positively correlated with job satisfaction (column 7, Table 2.8). The artists' coefficient is reduced and becomes insignificant, which implies that autonomy in deciding about one's working time is a driver for artists' increased job satisfaction. The control variable for having autonomy in choosing the work location (working at home if desired) is positively and significantly correlated with job satisfaction (column 8, Table 2.8). The size of the artists' coefficient is reduced by half and becomes insignificant. Having the possibility or the freedom to work at home contributes to artists' job satisfaction. This seems plausible considering that many artists have their studios at home.

Table 2.8: Causes of Higher Job Satisfaction Among Artists in Switzerland

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Performing & Visual Artists	0.247***	0.163*	0.185**	0.173*	0.160*	0.233***	0.133	0.0958
	(2.703)	(1.773)	(1.983)	(1.851)	(1.700)	(2.596)	(1.404)	(1.016)
Non-Artists				Reference group				
Self-employment		0.383***	0.377***	0.381***	0.343***	0.352***	0.367***	0.273***
		(10.65)	(10.38)	(10.41)	(9.300)	(9.930)	(9.771)	(7.223)
Interference work & private life			-0.121***					
			(-30.84)					
Difficult to de-connect from work				-0.0944***				
				(-24.12)				
Stressful work					-0.433***			
					(-20.02)			
Risk of unemployment						-0.134***		
						(-34.39)		
Flexible working hours and own decision							0.00725	
							(0.323)	
Work at home								0.285***
								(12.39)

continues on next page

Constant	8.807***	8.755***	8.765***	8.606***	8.561***	8.743***	8.653***	8.683***
	(90.94)	(90.50)	(92.45)	(89.99)	(88.90)	(91.66)	(89.85)	(90.02)
Socio-econ. controls	yes	yes	yes	yes	yes	yes	yes	yes
Wave fixed effects	yes	yes	yes	yes	yes	yes	yes	yes
Observations	23,950	23,950	20,344	20,367	20,297	23,699	20,356	20,376
R^2	0.032	0.036	0.080	0.064	0.056	0.082	0.037	0.044

Notes: Dependent variable job satisfaction, scale 1-10. The pooled cross-section OLS regressions include robust standard errors (corrected for repeated observations of individuals), the t-statistics are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. All regressions include control variables for age, age^2, gender, monthly income, weekly working hours and education. For a description of the variables used see Tables A.1 and A.2 in the Appendix *Data source*: SHP 1999-2010.

When including these procedural characteristics, the artist coefficient becomes insignificant in some specifications, but it is always positive. This indicates that there are other procedural characteristics making the artists happier. To assess exactly which other aspects contribute to the job satisfaction difference between artists and non-artists, it would be necessary to include them as control variables. Due to a lack of data availability, this is not possible within the scope of this study, but remains an interesting topic for further research.

2.6 Conclusion

Artists experience inferior work outcomes, such as lower average wages, longer working hours and a higher risk of becoming unemployed. Despite these inferior outcomes, the number of art students exceeds the number of available jobs by three to four times. The classical economic explanation for this labor market paradox is that artistic labor markets are superstar markets and artists are more risk-loving. Another explanation from psychological economics states that artists overestimate the likelihood of future success. This analysis contributes a new explanation to the literature, namely the importance of procedural utility.

With international cross section data from 47 countries and three national panel datasets, we show that artists are on average considerably more satisfied with their work than non-artists. The results indicate that differences in material outcomes, such as higher pay or a lower number of working hours, cannot completely account for the difference in job satisfaction observed. The job satisfaction difference can partially be attributed to the higher self-employment rate among artists. Using interaction effects, we can show that artists value income less positively than non-artists, even though an increase in income still increases artists' job satisfaction. The assumption of the neoclassical models stating that individuals derive a disutility from working more hours does not apply for artists. Working longer hours does not decrease artists' job satisfaction. Using the panel structure of the three national datasets we can show that the higher satisfaction is not driven by time-invariant individual characteristics, such as personality. The job satisfaction difference seems to be caused by aspects of the artistic work itself.

When looking at experienced work aspects, artists state that their work and private

life interfere more often, that they have a higher risk of becoming unemployed, that they work more often at night and on weekends, that it is more difficult for them to de-connect from work, and that they have more stressful work. They also state that their work is more varied, that they learn more, and that they enjoy more autonomy concerning where and when they want to work. Including these aspects in multivariate regressions shows that an increasing risk of becoming unemployed significantly reduces artists' job satisfaction. When holding risk constant, the satisfaction difference between artists and non-artists therefore becomes even larger. Having variable working times and being able to make one's own decision about them decreases the artist coefficient and makes it insignificant, which implies that autonomy in deciding about one's working times is a driver for the increased job satisfaction of artists. Having autonomy in choosing the work location decreases the size of the artist coefficient by half and it becomes insignificant. Thus, having the freedom to work at home is another factor driving artists' increased job satisfaction.

There are some caveats to our results. First, the number of artists in our samples is relatively small, as artists constitute a diminutive fraction of the total labor force (between 0.2% and 1.2%, depending on the country and how *artist* is defined). Even though our findings are remarkably robust given the small number of artists, it was not possible to obtain meaningful results with some of the international cross-section estimations we conducted (for example to investigate the effect of institutional differences between countries). For the same limitation, that is, the overall small number of artists, procedural work aspects could only be included in the regressions with Swiss data. In Germany, procedural aspects, especially having a varied job and learning on the job, were assessed in too few GSOEP waves to be included in the analysis.

Second, the correlations observed between artistic work and job satisfaction do not rule out endogeneity. Reverse causality might be an issue if more satisfied people are more likely to become artists. It would be an interesting task for future research to rule out this concern. In order to do so, a valid instrumental variable or a source of exogenous variation has to be found. In happiness research, instrumental variables are rarely used, since it is extremely difficult to find a factor that is, for example, correlated with being an artist, but not with happiness. This is even more the case when happiness is used as proxy for utility, because in economics, utility (and its maximization) is regarded as the ultimate

objective of all individual actions. Benz and Frey (2008) use the German reunification in 1990 as an exogenous shock to establish the causal direction of self-employment on job satisfaction. Since self-employment was severely restricted under the socialist regime in the German Democratic Republic, the share of self-employed significantly increased after the fall of the Berlin wall. We do not use this event to establish causality for artists, since the restrictions for the arts in East Germany were not as clear as for self-employment.

Collecting more comprehensive data on artistic job satisfaction and procedural characteristics of work remains a promising field for further research. This would enable the investigation of the robustness of the results depending on cultural and economic contexts and especially with regard to different institutional settings.

Chapter 3

European Capitals Of Culture, Regional Income And Life Satisfaction[†]

3.1 Introduction

3.1.1 Background

Most studies on mega-events analyze sporting events such as the Olympics or the Football World Cup, and furthermore restrict their focus to the economic consequences of these. We know little about the impact of cultural events on society. Moreover, empirical evidence on the influence of such mega-events on life satisfaction is scarce. To fill this gap, this chapter analyzes the impact on life satisfaction of hosting the European Capital of Culture (ECOC).

Founded in 1985, the ECOC program is now regarded as the most prestigious and popular cultural event in Europe (Mittag, 2008). The following figures, derived from a report by the European Union covering the 21 Cultural Capitals between 1995 and 2004, exhibit the significance of hosting an ECOC. On average, approximately 500 additional cultural projects were implemented in a year in which a city hosted the ECOC. The cultural program budgets reached up to €58.6 million (in Lille) – and were even exceeded by non-cultural capital expenditure. New provision and upgrading of cultural infrastructure, urban revitalization, and investment in general infrastructure amounted to over €220

[†]Parts of this chapter are based on: Steiner, Lasse, Bruno Frey and Simone Hotz (2013). European Capitals of Culture and Life Satisfaction. *University of Zurich, Department of Economics, Working Paper Series*, No. 117

million (in Copenhagen 1996). The total expenditure attributed to each of the 21 cities analyzed ranges from €3.5 to €3.75 billion. No comparable series of European cultural programs or events exist that have generated such a large expenditure (Palmer, 2004a). The popularity of the ECOC program is also reflected in imitations around the world. An Arabic capital of culture was selected in 1996, a Central and South American capital of culture was implemented in 2000, Canada and the USA adopted the idea in 2003 and 2009 respectively (Mittag, 2008).

All ECOC projects require large investments by public authorities. Since its inception, the total public sector contributions from national, city, regional and European Union sources amount on average to 77.5% of all investments made (Palmer, 2004a). For mega-events, such major public subsidies are usually justified by reference to economic multiplier effects or externalities. However, the abundant literature on hosting major sport events has at best shown negligible economic benefits for mega-events. A recent study shows a positive short-term effect of international sporting events on national well-being (Kavetsos and Szymanski, 2010). This result is not driven by improved athletic success but rather by the feel-good factor of hosting such an event. Hosting the FIFA World Cup or the Olympics increases life satisfaction - nota bene - only in the year the event takes place. There are no long-term effects.

In contrast to the rich literature on sporting events, to date there has been no empirical evidence regarding the impact of cultural mega-events. Surprisingly, our estimations show a negative and significant effect of hosting an ECOC on the life satisfaction of the regional population. The coefficient is about -0.08, which is a sizeable effect on a life satisfaction scale from 1 to 4.

The contribution of this chapter on the European Capitals of Culture is to show that cultural mega-events may have welfare implications that are not captured by standard economic indicators. The remainder of this chapter is structured as follows. In section 3.1.2, the literature on mega-events is briefly discussed. Section 3.2 reviews the existing literature on the ECOC more specifically and gives background information with respect to its history, selection criteria, funding and economic impact. Econometric estimations of the impact of hosting an ECOC on GDP per capita and growth are presented. In section 3.3, happiness research is introduced. Section 3.4 presents the life satisfaction data and empirical results. Section 3.5 concludes.

3.1.2 The Economics of Mega-Events

Whether mega-events, especially sporting events, produce net economic benefits has been discussed extensively in the literature (for a review on sporting events see, for example, Matheson, 2008). While the following arguments are mainly derived from the discussion of sporting events, they have also been applied to cultural mega-events such as the ECOCs (see Langen and Garcia, 2009; Herrero et al., 2006). Politicians and promoters of public investment often emphasize the positive effects of mega-events. The economic effects can be structured into short- and long-term effects on employment, tourism, infrastructure as well as housing and land values.

Mega-events, it is argued, create jobs and increase wages in the construction sector and, by spillover-effects, also in other sectors. However, strong substitution effects and budget constraints limit the net job creation and wage effects – or counteract it completely (see Rappaport and Wilerson, 2001). Concerning the sustainability of job creation, mega-events do not necessarily contribute to the creation of long-term full-time jobs (Whitson and Horne, 2006).

Mega-events are also supposed to create additional flows of tourists, both during and after the event, including economic multiplier effects (Karlis, 2003). The net effect depends on the region and time considered. Regional substitution effects take place because tourists are diverted to other regions. Substitution effects in time occur when tourists do not visit the same region in later periods; instead, they visit earlier to enjoy the event and the location. Both substitution effects make the net effect difficult to determine (Siegfried and Zimbalist, 2002).

Hosting a mega-event usually requires major infrastructure investments. These investments include accommodation and efficient transportation and telecommunications systems (Roche, 1992). However, urban infrastructure is constructed to serve the regular needs of the population and not the requirement of extraordinary events. One common argument against large public expenditures for mega-events holds that they have to be funded out of taxation, and increased taxes tend to crowd out private expenditures. The opportunity cost of public funds has to be considered as well. Public funding could be used more productively to finance hospitals and schools, thus enhancing well-being (Ingerson, 2001; Whitson, 2004). Furthermore, the higher prices associated with construction services before the event might deter other investment projects not relevant for the event

(Blake, 2005). The literature on sporting events suggests that the development and construction of stadiums does not generate a net addition to economic activity (Baade and Dye, 1990; Lertwachara and Cochran, 2007). In order to win the nomination for a major event, competing cities usually outbid each other with more spectacular (and costly) propositions. Using the created facilities once the event is over and covering the maintenance costs often turns out to be a difficult endeavor (Thornley, 2002). The facilities constructed to host, for example, the FIFA World Cup often exceed the level of demand after the event (Manzenreiter and Horne, 2005).

Mega-sporting events also influence the housing market and land values. The building of event-related infrastructure can involve housing relocation because of the compulsory purchase of land for clearance and building. This can also lead to a rise in rents and house prices, entailing problems especially for people with low incomes living in these areas (Hall and Hodges, 1998). Malfas et al. (2004) stresses that mega-sporting events could serve to exacerbate social problems and deepen existing divides among residents.

Overall, the literature does not support the view that hosting a mega-event will produce a net increase in economic activity. The positive effects are usually offset by substitution, crowding out, and leakages. However, what matters for an economic evaluation is the total effect on social welfare. Economic activity is not necessarily correlated with well-being, since it does not capture many other effects of mega-events. In particular, focusing on market activities disregards external effects. These may be negative, such as congestion costs, noise or stress, or positive, such as increased pride in or enthusiasm for an event. If mega-events do indeed raise well-being, economic indices such as GDP or numbers of tourists are inadequate measures. Modern happiness economics can be applied to determine the impact of an event on life satisfaction. Life satisfaction or subjective well-being has been found to be a valid proxy for utility as used in economic theory (Frey, 2008b).

Hosting an ECOC may impact life satisfaction in various ways. In some cities, this event has led to substantial improvements to public spaces and public transportation systems, as well as urban renewal. A positive impact on life satisfaction may also result from the creation of additional jobs and the availability of new customers for businesses. On the negative side, building sites may generate unpleasant noise and make travelling to work more difficult. Also, the influx of tourists might cause some people to be less satisfied

with life due to congestion in public transport, additional disruption, littering or increased crime. Housing prices may also rise. The life satisfaction approach allows individuals to integrate and value the relative importance of such effects. Using this approach, Kavetsos and Szymanski (2010) show that hosting a major sporting event like the FIFA World Cup or the Olympics has a positive and significant impact on life satisfaction. However, the feel-good factor is found to exist only in the year of the event; there is no evidence to suggest a long-term increase in well-being.

3.2 The European Capitals of Culture

3.2.1 History

In November 1983, Melina Mercouri, then Greece's Minister of Culture, suggested at the first informal meeting of European ministers of culture: "[...] It is time for our [the ministers' of culture] voice to be heard as loud as that of the technocrats. Culture, art and creativity are not less important than technology, commerce and the economy" (Sassatelli, 2008, p. 231). In June 1985, at the fourth meeting of the Council of Culture Ministers, the formal decision was taken to create an ECOC initiative. At the same meeting, the first European City of Culture[1] – Athens – was selected (European Communities, 2009). Today, the ECOC is Europe's most ambitious collaborative cultural project both in scope and scale, with budgets far exceeding those of any other cultural event (European Communities, 2009). According to some scholars, the ECOC initiative has also become the most popular and admired event within the European Union (Mittag, 2008).

At the beginning of the ECOC initiative in 1985, the ministers of culture created only very rudimentary rules on the aim and content of the program, the selection criteria and the organization and financing. The selection criteria and the assignment of ECOC had been developed in several phases, making the process inconsistent. In the beginning, only one member state held the event, and the decision on the choice of city was made at least two years in advance.[2] Due to the attractiveness of the program, stronger regulations and more stable selection procedures were implemented in the 1990s. In 1992, a resolution was developed which proposed to alternate the selection between cities from the European

[1] Later the title was changed to European *Capitals* of Culture.

[2] Resolution of the Ministers responsible for Cultural Affairs, meeting within the Council, June 13th, 1985, concerning the annual event "European City of Culture".

Union and cities from non-member states. Furthermore, it was decided that cities should not belong to the same geographical zone in consecutive years, a balance should be struck between capital cities and provincial cities, and a pair of cities could be designated jointly per year. After 1997, the principle of equal rotation was dropped because of substantial problems erupting between the ministers responsible. Lobbying strategies and political interests started to play an increasingly decisive role (Mittag, 2008). The selection rules were disrupted entirely in 2000, a highly symbolic year. All nine applying cities were accepted as ECOC because the Council could not achieve unanimous agreement on which two cities to choose. As a result, from 2001, only two cities are able to be a ECOC in the same year. In early 2007, the regulations were amended again, with the result that cities would now be entitled to be the ECOC for a whole year. The ECOC would also involve the surrounding regions, as this allows a wider public to be reached, and the impact of the event would be amplified. The latest change in the selection rules took place in 2009 and stated that, of the two ECOCs per year, one of the fifteen older EU states and one of the twelve newer EU states must be nominated. Table 3.1 lists the cities which hosted an ECOC between 1985 and 2012.

The goals and the realization of the ECOC program have changed substantially since its beginnings (Richards, 2000). In the early years, projects focused on high culture such as opera and ballet. Cities of undisputed cultural significance were selected, such as Athens (1985), Florence (1986), or Paris (1989). A new interpretation of the idea came in 1990 with Glasgow being selected as the ECOC. The city was suffering from high unemployment, urban decay and a reputation for street crime. Glasgow was not associated with culture at all. The city won the nomination on the basis of promised commercial sponsorship and plans to use the event to stimulate urban regeneration. Large parts of the city were restored and exhibitions of its industrial heritage were shown. Through the selection of de-industrialized cities, the economic aspect of the event was emphasized, with culture gaining in importance as a source of economic development and growth. Large financial investments were justified mainly by the economic returns the event was expected to generate, rather than by potential cultural benefits. The original idea was expanded further in Lille 2004, where the cultural program was extended to the entire Nord-Pas-de-Calais region and parts of Belgium. The program comprised 193 cities, towns and villages, where nearly 2,500 cultural events took place. This extension was intended

Table 3.1: European Capitals of Culture 1985-2012

Year	European Capital of Culture	Year	European Capital of Culture
1985	Athens (Greece)	1999	Weimar (Germany)
1986	Florence (Italy)	2000	Avignon (France), Bergen (Norway), Bologna (Italy), Brussels (Belgium) Cracow (Poland), Helsinki (Finland), Prague (Czech Rep.), Reykjavik (Iceland), Santiago de Compostella (Spain)
1987	Amsterdam (Netherlands)	2001	Porto (Portugal), Rotterdam (Netherlands)
1988	Berlin (Germany)	2002	Bruges (Belgium), Salamanca (Spain)
1989	Paris (France)	2003	Graz (Austria)
1990	Glasgow (UK)	2004	Genoa (Italy), Lille (France)
1991	Dublin (Ireland)	2005	Cork (Ireland)
1992	Madrid (Spain)	2006	Patras (Greece)
1993	Antwerp (Belgium)	2007	Luxembourg (Luxembourg), Sibiu (Romania)
1994	Lisbon (Portugal)	2008	Liverpool (UK), Stavanger (Norway)
1995	Luxembourg (Luxembourg)	2009	Linz (Austria), Vilnius (Lithuania)
1996	Copenhagen (Denmark)	2010	Essen (Germany), Pécs (Hungary), Istanbul (Turkey)
1997	Thessaloniki (Greece)	2011	Turku (Finland), Tallinn (Estonia)
1998	Stockholm (Sweden)	2012	Guimarães (Portugal), Maribor (Slovenia)

Source: http://ec.europa.eu/culture/our-programmes-and-actions/doc2485_en.htm, accessed on 20.3.2012

to attract economic investment to the whole region. Other cities copied this approach because it was claimed to be successful (Mittag, 2008).

3.2.2 Literature

The European Capitals of Culture initiative has received scant attention in the economic literature. A few papers exist that focus on the economic impact of the event in a specific town or region. Only a limited number of studies more critically evaluate a range of ECOCs (see for example, Mittag, 2008). The ECOCs analyzed in the study "European Cities and Capitals of Culture" (Palmer, 2004a) comprise a broad scale and scope of cultural events. The most prominent sectors were the performing and visual arts, street parades and other open-air events, heritage, history and architecture. Traditional, classical, contemporary and modern forms of art were frequently displayed. On average, approximately 500 ECOC projects took place in a given year. The cities tried to reach a wide audience and increase participation in culture by implementing projects in public spaces and holding many festivities, parades and open-air events (see, for example, the case study for Rotterdam, ECOC 2001 by Richards and Wilson (2004) or for Salamanca, ECOC 2002 by Herrero et al. (2006)). Transformation of public spaces and cultural installations in public areas were significant parts of the programs, attracting large public and media interest. To draw larger audiences, a large number of free events were offered. In Salamanca, 800 of the 1,100 projects granted free entrance and in Thessaloniki, over 70% of projects were free – even free food was supplied at most events. While the free events in Helsinki attracted an estimated 3.3 million visitors, only about 2 million people attended ticketed events in the city in 2000.

In all of the cities analyzed by Palmer (2004a), investment in infrastructure was undertaken. For at least three European Capitals of Culture, namely Porto, Thessaloniki and Genoa, infrastructure development was a key objective of the year. In these cities, major urban regeneration projects were undertaken by improving roads, developing derelict areas and re-modeling public squares and buildings. In some cases, infrastructure programs included projects not directly related to culture. In Weimar, for example, program expenditure covered major work on hospitals and a new building for the university. About one-third of the cities analyzed carried out work on transport infrastructure, which seems more closely related to tourism objectives. Projects included redesigning the airport in

Thessaloniki (€10 million), renovating the railway station in Weimar, and building new car parking facilities in the city centers of Bruges and Santiago. Overall, the most common types of infrastructure projects were improvements to public space, lighting and cultural infrastructure, including refurbishments and restorations of existing facilities and monuments and the construction of new cultural buildings such as concert halls and museums. Many ECOCs reported difficulties with their infrastructure projects because they had to be realized within only a few years. In some cities, buildings were not ready for the ECOC year or the building process had to be rushed, causing defects or inflated construction costs. For example, the new modern art museum in Stockholm opened in 1998 but had to close for repairs a few years later due to structural problems. Several cities reported difficulties sustaining new infrastructure after the end of the event due to a lack of resources to cover operational costs.

With respect to the general financial situation, Palmer (2004a) reports that about a third of the city organizations responsible for the ECOCs claimed to make a small financial surplus, a third reported a break-even situation and the remaining third reported a deficit. The absence of a financial deficit cannot, however, be assumed to be a strong indicator of prudent financial management. Deficits were also recorded by certain cities as a means of attracting additional financing. In some countries other institutions such as the national lottery helped to alleviate the deficit. All ECOC projects required large investments by public authorities, with funding coming primarily from federal government or regional authorities and not from the municipalities. The member states can decide which of their authorities will take responsibility for organizing and financing the event. On average, 77.5% of total investments were generated from national, city, regional and European Union sources. Despite being labeled as *European* Capitals of Culture, the contribution of the European Union, on average, accounted for only 1.8%, while private sponsorship averaged 13%. Cultural program budgets ranged from €5.48 million in Reykjavik to €58.6 million in Lille. The overall average is €25.6 million[3] Capital expenditure, including new provision and upgrading of cultural capital (for example, museums, theatres, concert halls), urban revitalization (for example, renovation of squares, streets, gardens), and investment in infrastructure (for example, rail stations, underground, roads), varied from less than €10 million in Bologna and Avignon to over €220 million in Copenhagen,

[3]Different elements have been included in calculating the total expenditure by each city. Caution must therefore be exercised when comparing the absolute amounts Palmer (2004a, p. 69).

Thessaloniki, Weimar and Genoa. The total expenditure attributed to the 21 cities analyzed by Palmer (2004a) ranged between €3.5 and 3.75 billion. No comparable series of European cultural programs or events have generated such large expenditures.

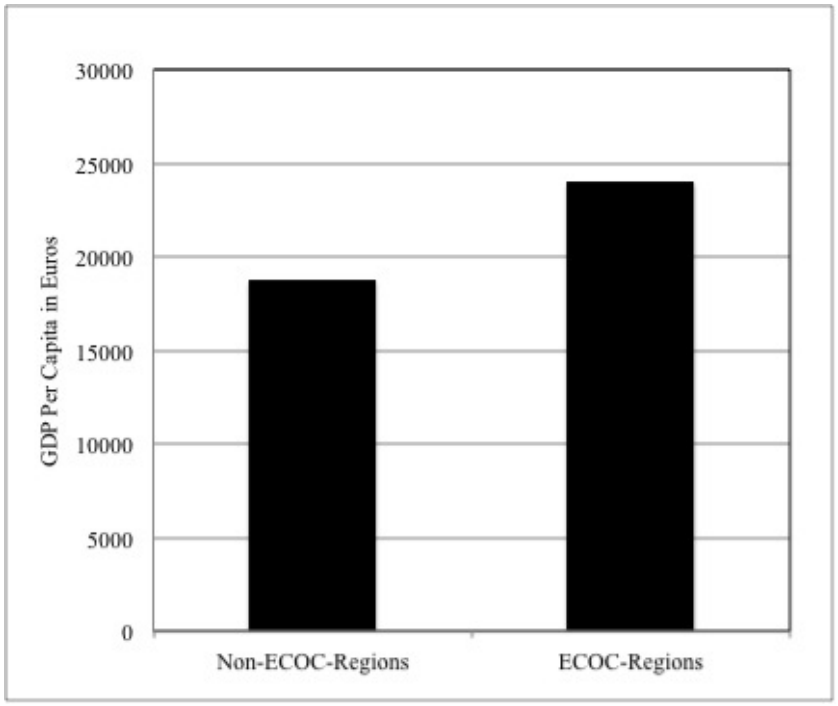
Measuring the economic impact of cultural events is difficult. This is due, for instance, to the problem of developing appropriate indicators that reflect the multiple objectives of far-reaching events like the ECOC (for example, for three major cultural events in South Africa see Saayman and Saayman (2004), for eleven festivals in England see Maugham and Bianchini (2004), or for cultural events in Savonlinna, Finland see Mikkonen and Pasanen (2010)). The economic priorities of the ECOC are fostering tourism, image management, urban revitalization, and strengthening industry and job creation. In the period from 1995 to 2003, overnight stays rose, on average, by 12% in the ECOC year and declined by almost 4% in the following year (compared to the level before the ECOC took place). Considerable variations in overnight stays during the event year exist, ranging from an increase by 56.3% in Weimar to a decline by 6.7% in Prague. In general, local residents were the largest visitor group, representing 30 to 40% of estimated total visitor numbers. Ten to twenty% were day visitors, 20 to 30% were domestic tourists and 10 to 20% were foreign tourists (Palmer, 2004a). A major issue concerning the visitor numbers is whether a city is visited specifically for the ECOC. Garcia et al. (2010) stated that 35% of all 9.7 million visits to Liverpool in 2008 would not have taken place without the event.

3.2.3 The Impact on Regional Income

Previous studies have focused on the impact of European Capitals of Culture on specific economic aspects, such as infrastructure investment, financial budgets, or tourism flows (Mittag, 2008; Palmer, 2004a). They find a positive average impact on most of these economic indicators. One example is the report by Garcia et al. (2010), which attributes an economic impact of £753.8 million to the ECOC title and event program in Liverpool in 2008 (based on estimated direct spending). However, it has to be mentioned that this report was commissioned by the Liverpool City Council. Besides the issue of the interests of the sponsor, another problematic aspect of economic impact studies is the disregard of substitution effects. Substitution effects might occur in time and place, when people visiting an ECOC do not visit the hosting region in later years or do not visit other cities in the hosting region or country. Furthermore, economic impact studies often assume

multiplier effects or indirect profitability. When focusing only on specific indicators such as tourism, substitution effects to other industrial sectors might be disregarded. Thus, to investigate the net economic impact of hosting an ECOC, we estimate the impact on GDP per capita and GDP per capita growth.

Figure 3.1: Average GDP Per Capita in ECOC-Host-Regions and Non-Host-Regions



Data source: GDP per capita on Nuts 2 level from Eurostat 1995-2011

Figure 3.1 shows GDP per capita in the year in which a region hosts an ECOC compared to other European regions. Interestingly, average GDP per capita is significantly higher in the regions hosting an ECOC than in non-host European regions. In host regions, the average GDP per capita in the respective year is €24,000. All other European regions have an average GDP per capita of €18,800.

Since ECOCs are located in cities, the difference in average GDP per capita is likely to reflect the difference in economic development between urban and rural areas and not a causal impact of the event. Thus, Table 3.2 shows univariate and multivariate regression results of the relation of hosting an ECOC on GDP per capita. The multivariate regressions (columns 2 to 4 in Tables 3.2 and 3.3 respectively) estimate the following

macro-economic equation:

$$Y_{jt} = \beta_0 + \beta_1 ECOC_{jt} + \beta_2 X_{jt} + R_j + T_t + \varepsilon_{jt} \tag{3.1}$$

The dependent variable Y_{jt} in this section is either GDP per capita (Table 3.2) or GDP per capita growth (Table 3.3) in region j at year t, and is provided by Eurostat. Hosting an ECOC in region j and year t is the key explanatory variable. A dummy variable is constructed taking the value 1 if there is an ECOC in a region j in a certain year t and 0 otherwise. In addition, lags and leads of this variable are created. We use a vector, X_{jt}, of standard macro-economic control variables (Abadie and Gardeazabal, 2003; Barro and Sala-I-Martin, 2004; Barro, 1991), namely population density, sectoral shares, and human capital, represented by education. The control variables are drawn from Eurostat between 1990 and 2009 and comprise 28 ECOCs. Six cities from that time period cannot be included due to missing data. All data are analyzed with variables on sub-national geographical units j, which are defined as a NUTS 2 (*Nomenclature des unités territoriales statistiques*) regional level. We include region dummies R_j at the NUTS 2 level and year dummies T_t to account for region-invariant time shocks.

The univariate regression (column 1, Table 3.2) confirms the significant difference documented in Figure 3.1: Hosting an ECOC is significantly and positively correlated with GDP per capita. The multivariate regression (column 2, Table 3.2) also includes standard macro-economic control variables, and region and year fixed effects. When including fixed effects and other controls, the correlation between hosting a European Capital of Culture and GDP per capita becomes statistically insignificant, confirming the presumption that the higher GDP per capita merely reflects structural differences between urban host-regions and rural non-host regions.[4]

This selection effect is confirmed by regression 3 and 4 (Table 3.2). Here we include lags and leads of hosting an ECOC. We consider the 4 years prior to and the 2 years after the event to test for selection effects (years 4 and 3 before the event), anticipation effects (years 2 and 1 before the event), and legacy effects (years 1 and 2 after the event). Anticipation effects would occur if, prior to the event, the economic activity was stimulated significantly compared to other regions, for example by increased construction. Legacy

[4]In columns 2 and 4 of Tables 3.2 and 3.3 the number of observations is reduced, due to missing values of the control variables. Tests show that the insignificance of the ECOC variable is not related to the missing observations.

Table 3.2: The Effect of Hosting a European Capital of Culture on GDP per Capita

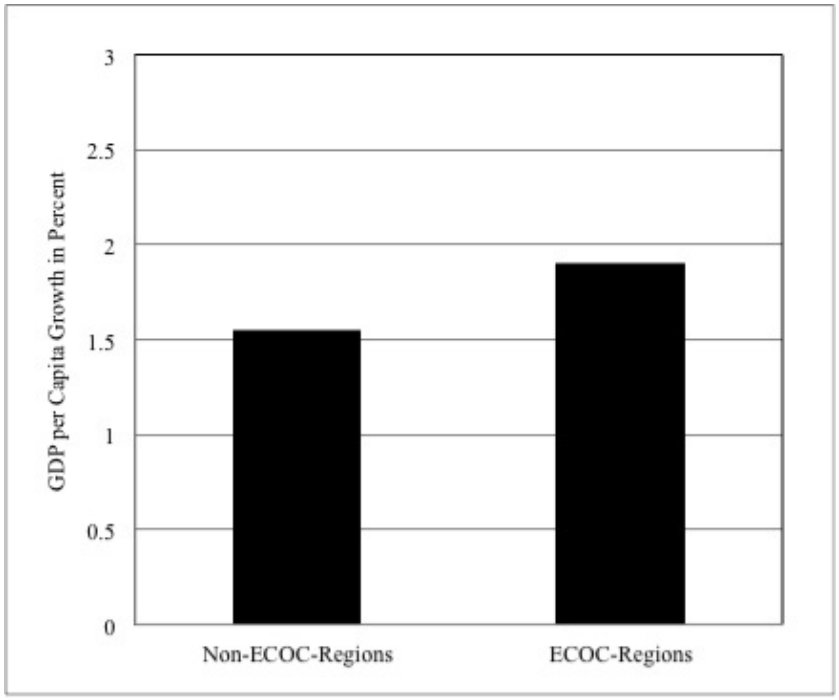
	(1)	(2)	(3)	(4)
	Univariate	Multivariate	Univariate	Multivariate
ECOC t-4			7,730**	-482.2
			(2.482)	(-0.969)
ECOC t-3			6,777**	-801.2
			(2.347)	(-1.183)
ECOC t-2			7,076**	80.41
			(2.279)	(0.246)
ECOC t-1			6,497**	-461.4
			(2.356)	(-1.256)
ECOC t	5,214**	3.165	7,022**	-265.6
	(2.367)	(0.0206)	(2.475)	(-0.820)
ECOC t+1			6,260**	-301.9
			(2.177)	(-0.896)
ECOC t+2			7,817**	-106.7
			(2.373)	(-0.566)
Constant	18,773***	11,723***	18,978***	11,753***
	(31.58)	(6.154)	(33.34)	(6.115)
Macroeconomic controls	No	Yes	No	Yes
Year fixed effects	No	Yes	No	Yes
Region fixed effects	No	Yes	No	Yes
Observations	2,342	386	1,751	386
R^2	0.004	0.997	0.046	0.997

Notes: The dependent Variable is regional GDP per capita growth (on Nuts 2 level). As control variables we use population density, sectoral shares (agriculture, industry, construction, wholesale and retail trade, financial intermediation) and human capital (represented by education). ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Robust clustered standards errors. t-statistic in parenthesis. In columns 2 and 4 the number of observations is reduced, due to missing values of the control variables. *Data source*: Eurostat 1995-2011.

effects would show up if the event increased the economic development subsequent to the event, for example due to higher tourism flows. Regression 3 does not include any control variables or fixed effects and shows that average GDP per capita in a host region is higher than in other regions during the whole period considered. When employing macro-economic controls, year and region fixed effects, all coefficients of the lag and lead variables become insignificant (column 4, Table 3.2). This indicates that there are no anticipation or legacy effects. The ECOCs have merely been hosted in more developed regions of the respective countries.

Another issue is whether hosting an ECOC fosters economic *growth* or, more generally, if host regions are more economically dynamic regions. Figure 3.2 shows the average GPD per capita growth in the year in which a region hosts an ECOC compared to other European regions.

Figure 3.2: Average GDP Per Capita Growth Depending on ECOC-Status



Data source: GDP per capita on Nuts 2 level from Eurostat 1995-2011

GDP per capita growth in host regions is on average 1.9% compared to an average growth rate of 1.5% in all European non-host regions. Regressions 1 and 2 in Table 3.3 indicate that the difference in average economic growth is not statistically significant, no matter whether control variables and fixed effects are used or not. In regressions 3

and 4 (Table 3.3) , we also include lag and lead variables to check for possible increased economic activity before and after the event. When including fixed effect and macro-economic control variables, hosting an ECOC is not significantly correlated with GDP per capita growth 4 years before and 2 years after the event.

While hosting an ECOC tends to impact single economic indicators such as tourism or construction, it does not have a significant *net* impact on a region's economic development reflected by GDP per capita growth. The non-existence of a net effect might be due to substitution effects (in place and time). For example, increased construction activity may substitute for other government expenditures or may crowd out private expenditure. According to Palmer (2004a), the host regions experience only a short-term increase in overnight stays of 12% in the event year, followed by a 4% drop in the following year, which indicates time substitution effects.

Our results are in line with studies on the impact of mega-sporting events, which show that a positive economic impact on the host cities and regions exists but that "the economic contribution of such events might lie in a single impulse of increased demand during the period of the event, and consequently might lose its effect in a short period of time" (Malfas et al., 2004, p. 213). Crompton (2001) finds that an increase in demand caused by a single sporting event will not induce businesses to hire more full-time staff. Even the opposite is possible: Coates and Humphreys (2011) estimate a decrease in earnings by US$ 46 per year (inflation adjusted) for all occupations, despite an increase in the wages of workers directly employed by sports teams and facilities. A study of the Seoul Olympics shows that the event did not have a long-term impact on local tourism (Malfas et al., 2004). In summary, while the ECOCs have been hosted in more developed regions of the respective countries, there is no causal net effect on economic development.

Table 3.3: The Effect of Hosting a European Capital of Culture on GDP per Capita growth

	(1) Univariate	(2) Multivariate	(3) Univariate	(4) Multivariate
ECOC t-4			0.0158**	0.00640
			(2.309)	(0.849)
ECOC t-3			0.00105	-0.0324
			(0.106)	(-1.208)
ECOC t-2			-0.000103	-0.000591
			(-0.0143)	(-0.0782)
ECOC t-1			-0.000631	-0.000737
			(-0.0972)	(-0.0745)
ECOC t	0.00358	-0.00297	0.00763*	-0.00840
	(0.805)	(-0.688)	(1.883)	(-0.870)
ECOC t+1			0.00852	-0.00742
			(1.580)	(-0.674)
ECOC t+2			0.0175*	-0.00927
			(1.825)	(-0.731)
Constant	0.0155***	0.0378	0.0168***	0.0589
	(24.55)	(0.703)	(23.72)	(1.040)
Macroeconomic controls	No	Yes	No	Yes
Year fixed effects	No	Yes	No	Yes
Region fixed effects	No	Yes	No	Yes
Observations	2,188	386	1,751	386
R^2	0.000	0.492	0.004	0.524

Notes: The dependent Variable is regional GDP per capita growth (on Nuts 2 level). As control variables we use population density, sectoral shares (agriculture, industry, construction, wholesale and retail trade, financial intermediation) and human capital (represented by education). ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Robust clustered standards errors. t-statistic in parenthesis. In columns 2 and 4 the number of observations is reduced, due to missing values of the control variables. *Data source*: Eurostat 1995-2011.

3.3 Evaluation of Cultural Events

3.3.1 Externalities of the Cultural Sector

As discussed above, direct public support for the ECOC and the related investments in infrastructure are sizable. Major state interventions in the cultural sector are usually justified by the insufficient supply provided by the private sector due to culture having positive externalities. Moreover, it is argued that other benefits exist, since culture has stimulating effects on the economy and encourages tourism (Towse, 2010). In addition to the benefits for people actually visiting cultural events, culture also produces positive external effects, termed "non-user benefits", for people not consuming culture (Frey, 2003). As a consequence, less culture is demanded than would be socially optimal, which leads to an undersupply of culture. The argument that the supply of culture is lower than the social optimum provides an important justification for government intervention in markets for culture. There exist at least five positive effects of culture, which are not reflected by the market:

- The option value denotes the benefit drawn from the pure availability of cultural supply. It arises from the option of consuming culture without actually having to make use of it. The option value may become visible in private donations and in the membership of cultural institutions. These types of support constitute only a lower boundary of positive evaluation.

- The existence value describes the positive value of the pure existence of artistic goods and activities. Individuals benefit from knowing that, for example, a museum or a historic building exists.

- The bequest value goes one step further. Individuals may value cultural goods not for themselves but for future generations. The conservation of culture may create a positive effect for descendants which is not captured in current markets. This argument has already been emphasized in one of the first works on cultural economics by Baumol and Bowen (1966).

- The prestige value is attributed to artistic and cultural institutions by non-users, because they promote and preserve the feeling of regional and national identity. This effect also applies to individuals not interested in art at all.

- The innovative value constitutes the contribution the art makes to the development of creative thinking within a society. The practice of the arts has an impact on the capacity for critical evaluation and the creation of aesthetic standards. To a lesser extent, the media and other industries derive profits from the arts without paying for artistic training through the market (Towse, 2010).

Empirical research has shown that, depending on the cultural sector considered, these non-market values are often of significant size. They need to be taken into account when understanding the benefit-cost calculation of whether a cultural activity should be supported by the public (Frey, 2003).

3.3.2 Impact Studies

The most popular way to measure the value of cultural venues or events is to look at the monetary revenue created. The expenditures incurred by the visitors to a museum or theater (entrance fee, expenditure in shops and restaurants, transport etc.) are summed to calculate the induced multiplier effect. Studies of the impacts of major cultural festivals mostly take the form of event evaluations carried out for organizers or funding bodies, which seem to function primarily as evidence of the positive economic value of the events (see, for example, Garcia et al., 2010). The most common approach in these studies is the analysis of visitor expenditure data to determine the direct, indirect and induced contribution of the event to the local or regional economy. Data are typically collected from a variety of sources, including visitor surveys, box office data, and stakeholder interviews (Langen and Garcia, 2009). Although such studies are in demand by the suppliers of cultural services, they do not adequately reflect the social value of a cultural object. Since this method disregards effects not reflected on the market, two willingness-to-pay methods are proposed which capture externalities.

The first approach to evaluate non-marketed goods is the revealed preference method, for which two procedures are relevant, namely the "hedonic market approach" and the "travel cost approach" (Towse, 2010). The hedonic market approach measures the value attributed to a cultural object, for example an opera house or a theater, by looking at private markets, which indirectly reflect the utility that individuals enjoy. In a location with such a cultural object, some persons will, ceteris paribus, accept an equivalent job with a lower wage than elsewhere. The wage difference is an indirect monetary measure

of that particular individual's evaluation of the cultural object. The value attributed to a cultural object can also be approximated by differences in rents, house and land prices. Only part of the non-market values mentioned above are captured by this indirect measure; the educational and innovative values are disregarded. The hedonic market approach relies on restrictive assumptions. To generate correct results, private markets for labor and housing must be in perfect equilibrium, because the results only hold ceteris paribus. In reality, these assumptions are rarely met, biasing the corresponding monetary evaluation of the cultural venue. The travel cost approach sums the costs of the trip and the entrance fee which arise from visiting a cultural object. The expenditures only reveal a lower bound for the value attributed to the cultural object, because people might have been willing to travel longer distances and pay higher entrance fees. This method requires two assumptions: the cultural object in question must be the only purpose of the trip, and travelling itself does not yield any pleasure. The results of the travel cost approach only reflect the prestige and innovation value. However, in many cases the restrictive assumptions required for the revealed preference methods are not sufficiently met in practice.

Most economists opt for the second approach, namely the stated-preference method. People are asked to state their preferences in hypothetical contingent markets. The most important example is the survey-based contingent valuation methodology (CVM). In the last decades, surveys have been widely used to estimate people's willingness to pay. Provided that a number of stringent requirements hold, CVM can produce estimates reliable enough to measure non-use values (Noonan, 2003; Bateman et al., 2002). This approach has, for example, been used to estimate the total value of the Royal Theatre for the Danish population (Hansen, 1997). The findings show that the Royal Theatre's non-user benefits are substantial. The Danish population's willingness to pay is at least as high as the amount the theater receives through public subsidies. CVM depends on several conditions. Among others, the budget constraint must be well specified, and substitutes for the commodity in question must be pointed out. This survey-based method gives rise to strategic responses, though. There is also a difference between the willingness to pay and the willingness to accept for non-market goods (Jason et al., 1994). In addition, it is assumed that supply is efficient, and that consumers' preferences are met. Both assumptions generally do not hold in reality. Due to these drawbacks in existing evaluation

methods[5], we focus on the new possibilities provided by modern happiness research.

3.3.3 The Life Satisfaction Approach

Happiness Research

In contrast to the revealed-preference methods, happiness research measures utility through a subjective stated preferences approach. Happiness research has grown to be a widely recognized field of economics, which has attracted the attention of various politicians. Most prominently, the former French president Sarkozy commissioned the "Report by the commission on the measurement of economic performance and social progress" by Stiglitz et al. (2009). In the UK an official report on national well-being was published in 2012, calling GDP an incomplete measure of welfare.[6] The Kingdom of Bhutan has declared the maximization of Gross National Happiness as the country's primary political goal (Diener and Tov, 2012). Happiness researchers use subjective well-being, which focuses an individual's cognitive or affective assessment of his or her own life, as a proxy for utility. Subjective well-being measures have the major advantage that no specific definition of happiness is needed (Bruni and Porta, 2007). Individuals decide on what well-being means to them. There are three approaches to measuring subjective well-being:

- Experience measures provide an assessment of the emotional quality of an individual's experience in terms of the frequency, intensity and type of emotion at any given moment. The two most prominent methods are the day reconstruction method and the experience sampling method. Respondents report feelings at different times of the day while carrying out different activities. This information can also be collected via surveys. Respondents are asked about their feelings over a short reference period, for example, "Overall, how anxious did you feel yesterday?". Experience measures comprise both positive and negative emotions (Diener et al., 2009).

[5]There exists one other method which combines the evaluation of cultural properties with the political decision whether it should be implemented, namely public referenda. The major problem with revealed or stated preference studies is that they are divorced from political decisions. The results of those studies may under some circumstances used by some political actors, provided they suit their interests. Popular referenda evade this principal-agent problem and constitute a barrier against the flaws of a representative system (Frey, 2003). In Switzerland, public referenda have been used successfully on cultural issues. In 2010, for example, the electorate of Zurich voted in favor of an extension of the Landesmuseum, costing CHF 10 million.

[6]As cited in *The Economist* on 24.7.2012, see http://www.economist.com/blogs/blighty/2012/07/national-well-being, accessed on 10.8.2012.

- The second method is the eudemonic approach, which assumes that people have underlying psychological needs for their lives to have meaning. Eudemonic measures can include, for example, reported evaluations on autonomy, control, competence, engagement, good personal relationships, and a sense of meaning, purpose or achievement in life. They capture a range of factors considered to be important which are not necessarily reflected in experience measures (Frey, 2008b).

- In line with much of the literature on subjective well-being, we base our happiness estimations on national and international surveys. Respondents are asked to provide an assessment of their overall satisfaction with life. Cross-national indicators of subjective well-being are generated, for example, by representative surveys such as the World Value Survey, in which individuals are asked: "All things considered, how satisfied are you with your life as a whole these days?" The answers are often given on a scale from 1 (dissatisfied) to 10 (satisfied). In this chapter, we use data from the Eurobarometer Survey, which asks a similar question but provides a four-point scale for the answers: "On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with your life?" (European Commission, 2010)

The recently developed life satisfaction approach enables an evaluation of non-market goods. In neoclassical models, it is assumed that individuals maximize their (unobserved) utility function and act accordingly. Risk aversion, impatience, altruism and other properties of the underlying utility function are inferred through the observable choices that people make. Evaluating the welfare effects of non-market goods is challenging because market prices cannot be observed (Frey et al., 2004). Subjective well-being does not rely on observable prices, however. It is used as a proxy for utility in the life satisfaction approach. The estimated happiness functions include the non-market good, income and other covariates as explanatory variables. The coefficient of the non-market good represents the valuation in terms of utility, approximated by life satisfaction. The coefficients for the non-market good and income can be used to calculate the implicit willingness to pay for the non-market good. The willingness-to-pay is the amount necessary to compensate an individual for a given change in the non-market good. This approach can be used to evaluate, for example, the externalities of airport noise (Van Praag and Baarsma, 2005), air pollution (Welsch, 2006), natural catastrophes such as flood disasters (Luechinger and Raschky, 2009), terrorism (Frey et al., 2009), and civil conflicts (Welsch, 2008).

The life satisfaction approach has several advantages compared to revealed or observed preference methods. In contrast to CVM, a respondent does not have to be able to consider all relevant consequences of a change in the provision of cultural goods. Individuals do not have to specify the value of a cultural good but are asked to evaluate their general well-being. This is presumably a cognitively less demanding task. Life satisfaction measures are not subject to strategic behavior, which constitutes a problem in contingent valuations. The hedonic market approach requires markets to be in equilibrium, an assumption which is not needed by happiness research to capture utility changes. Well-being measures also capture positive and negative externalities, even if the non-market good does not have a direct impact on utility (Frey, 2008b).[7]

Measures of happiness are prone to various systematic and non-systematic biases. The mode of interview, the order and the wording of questions, the scales applied, and mood may have an impact on subjective self-evaluation. However, for the purpose of identifying the determinants of life satisfaction, these influences are not very relevant. Subjective well-being measures do not have to be cardinally measurable or interpersonally comparable (Frey, 2008b). Psychological studies have established that subjective well-being is moderately stable and sensitive to changing life circumstances. Different measures of happiness correlate well with one another. Individuals with high levels of life satisfaction, for example, smile more often during social interactions and are less likely to commit suicide. Psychologists conclude that measures of subjective well-being are reliable proxies for individual utility and contain substantial valid variance (Oswald and Wu, 2010).

Determinants of Life Satisfaction

The determinants influencing life satisfaction can be analyzed by estimating a micro-econometric happiness function. Potential influences on well-being can be classified into five categories: 1) personal factors, such as the Big Five personality traits (openness, conscientiousness, extraversion, agreeableness and neuroticism, see McAdams and Pals, 2006), or genetic predisposition; 2) socio-demographic factors such as age, gender, marital status and education; 3) economic factors such as individual or aggregate income, unemployment and inflation; 4) contextual and situational factors such as employment

[7]For example, exposure to nuclear radiation can damage health through a process unnoticed by individuals. Nevertheless, it lowers life satisfaction. No behavioral difference would be observed. Thus, revealed preference methods would not measure the utility loss.

conditions, interpersonal relations, living conditions and health, and 5) institutional factors such as the degree of federalism or democratic participation rights (Frey, 2008b; Dolan and Peasgood, 2006).

The determinants of life satisfaction are important for our estimations because they serve as control variables and partly interact with the effect of hosting a cultural event on well-being. The main ndings (ceteris paribus) of life satisfaction equations across countries and time are as follows (for a review see for example Blanchflower, 2009; Clark et al., 2008; Di Tella and MacCulloch, 2006). The average development of well-being over the course of life is U-shaped. In their late forties, individuals experience the lowest life satisfaction. The level of education has an impact on satisfaction; highly educated individuals are on average happier than those with only primary or secondary education. The correlation of income and happiness is probably the one most thoroughly investigated by economic happiness research. There is a strong positive cross-section correlation between income and happiness at both individual and country levels. However, the marginal utility of income decreases with higher income, and the correlation does not hold over time. The famous Easterlin Paradox (1974), which is often regarded as the starting point of happiness research, states that while per-capita income in western countries has risen sharply in recent decades, average happiness has stayed constant or has even declined over the same period. Easterlin (1974); Easterlin et al. (2010) uses the concept of aspirations to explain this paradox. People with higher income are, on average, happier, but raising a country's average income does not increase average happiness, because in comparison to others, income has not improved. Besides the comparison effect, the adaptation of individuals to happiness shocks serves as a complementary explanation for this paradox (Di Tella et al., 2010). Being unemployed strongly decreases life satisfaction, even when controlling for income. This finding is somewhat surprising for neoclassical economists, since disposable time increases, which, when holding income constant, should increase individual utility. While being married increases happiness, especially compared to those newly divorced or separated, the effect of children is somewhat inconclusive and depends on the countries and period examined. On an individual level, being healthy is one of the most important determinants of happiness. The positive correlation is so strong that often health variables are excluded for endogeneity reasons. However, correlations do not establish causation. Income need not make a person happier; rather, happier people might earn higher incomes,

for example because they work harder and are more enterprising.

Besides being influenced by many individual determinants, happiness is also correlated with societal, or institutional, factors. For example, the degree of federalism and direct democratic participation rights are positively correlated with life satisfaction. While most of the variables above are relevant as individual control variables for our analysis, little research has been conducted concerning the relationship between culture and life satisfaction. Frey and Meier (2006) find a positive relationship between life satisfaction and cultural visits, but the direction of causality remains open. Does a higher frequency of visits to cultural events increase contentment or do happier people attend such activities more frequently? Another issue is that the number of visits to cultural events is based on self-reported statements. According to Frey and Meier, these tend to be upward-biased, because the respondents do not want to project the image of being cultural philistines. To avoid these issues, we focus on hosting an ECOC as a quasi-exogenous shock[8] or mega-event.

3.4 European Capitals of Culture and Life Satisfaction

Using the ECOC event allows us to analyze the exogenous event of a cultural mega-event in combination with the measurement of regional life satisfaction. The survey data include people who do not attend cultural events but are nonetheless indirectly affected by an ECOC taking place in their region. There are major positive and negative side effects of this mega-event which may affect life satisfaction. In some cities, substantial improvements have been made to public spaces, public transportation systems and urban renewal in general. A positive impact on life satisfaction could also result from the creation of additional jobs and greater economic turnover. Among the negative consequences are construction works, which may generate unpleasant noise and make traveling more difficult. The increase in the number of tourists may cause residents to be less satisfied with life due to congestion in public transport or to additional disruption or littering. The empirical analysis therefore measures all the effects of hosting a mega-event in the form of an exogenous increase in the supply of culture.

[8]It can be considered exogenous since the local population, whose life satisfaction we measure, does not have any influence in attracting the event.

3.4.1 Data

The dependent variable, life satisfaction, and the individual-specific controls, which include household income, size of household, employment situation, age, gender, marital status and number of children, are drawn from *The Mannheim Eurobarometer Trend File 1970 – 2002*. The longitudinal data contains repeated cross-sectional surveys. This compilation offers unified data from 86 Eurobarometer surveys conducted in 18 European nations in the period 1970 to 2002.[9] Two of these nations did not host an ECOC during this period and for one region, no data exists in the relevant time period.[10] The final dataset includes 14 nations and 24 ECOCs.[11] All data are analyzed by comparing individual variables across sub-national geographical units, which are defined at NUTS 2 regional level.

The data on life satisfaction is based on the question: "Would you say you are: very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with your life in general?" Minor deviations in the wording exist in different surveys. Respondents answered according to a 4-point scale ranging from "not at all satisfied" through "not very satisfied" and "fairly satisfied" to "very satisfied".

Hosting an ECOC is the key explanatory variable. A dummy variable is constructed taking the value 1 if there is an ECOC in a region in a certain year, and 0 otherwise. In addition, lags and leads of this variable are created. The NUTS 2 regions, which hosted an ECOC in the time period 1985 to 2002 and have been analyzed in this chapter, are highlighted in Figure 3.3. The ECOC have been distributed over many different regions in Europe.

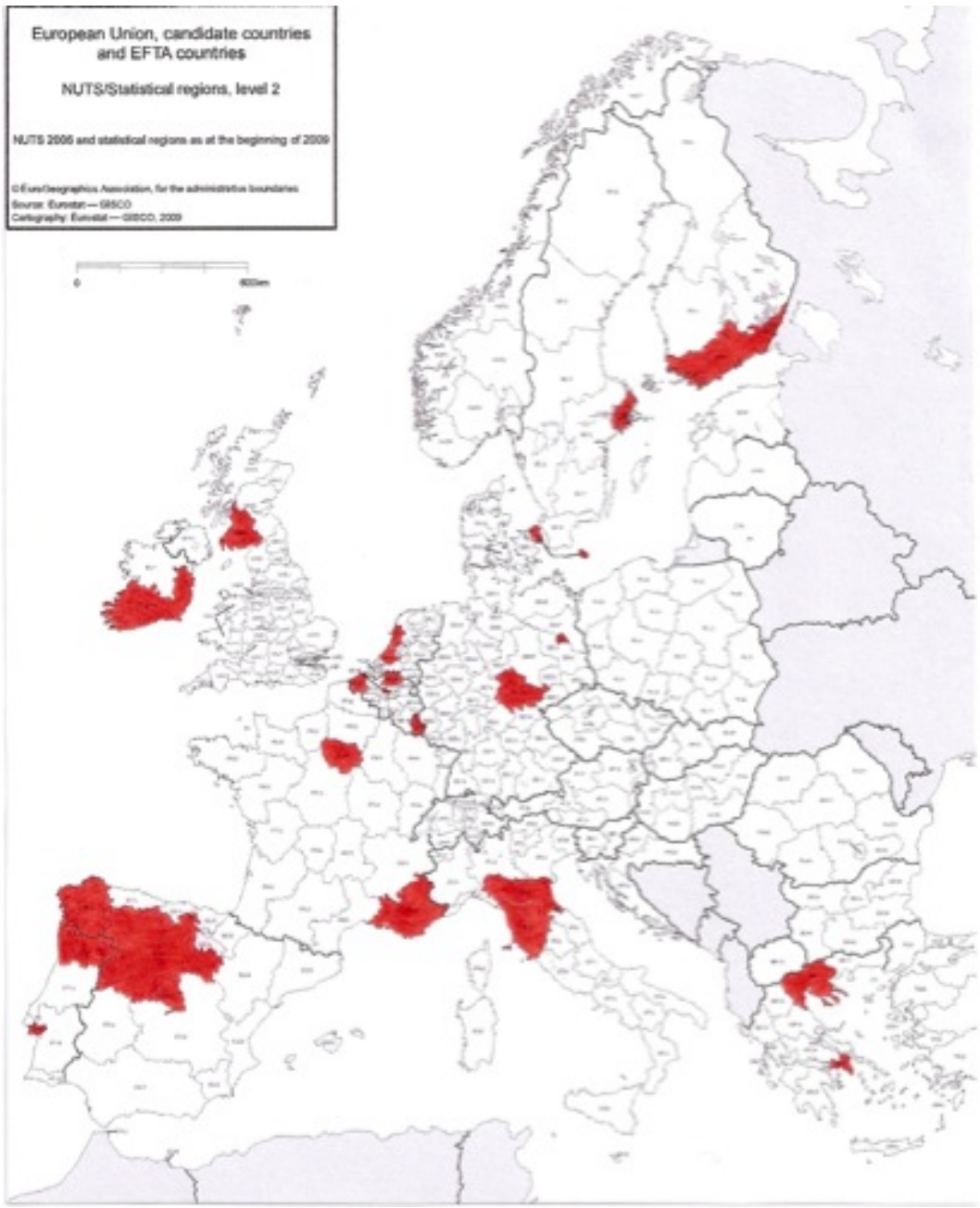
In the Eurobarometer data, household income, which serves as an important control variable, is classified into 6 to 12 income groups. The size of these groups varies considerably between countries and surveys. Therefore, the original income-group information is translated into a number, which represents the mean of the group interval (for example, the lowest income group, "€0 to €1,000", is coded as €500). These mean values

[9]The Eurobarometer also comprises 48 surveys between 2002 and 2010. Nineteen of these include life satisfaction data. However, only three include the necessary control variables. Sixteen surveys do not include any information about income and number of children. Some do not include information on the occupation (employed, unemployed, retired). Because income is an especially crucial economic control variable for life satisfaction, we refrain from using the survey results from after 2002.

[10]Austria and Northern Ireland did not host an ECOC in the period under consideration; no data on the relevant time period and region exists for Norway.

[11]The countries included in the empirical analysis are: Belgium, Denmark, Finland, France, Germany, Great Britain, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain and Sweden.

Figure 3.3: NUTS 2 Regions Hosting a ECOC 1985–2002 Included in the Analysis



Data source: The map is based on `http://epp.eurostat.ec.europa.eu/cache/GISCO/yearbook2009/RYB-Full-NUTS2-2009-EN.pdf`

are converted into US$, taking into account purchasing power parity. Since the common European currency was only introduced in 1999, we use US$ instead of €to enable comparisons of income from different countries. The square root of household size is included in the regressions to control for the effect of household size on equivalent income. Because the highest income group is open-ended, respondents that fall into this income group are excluded. Income is included in a logarithmical functional form, which accounts for decreasing marginal utility of income.

Individual characteristics, including employment situation, gender and marital status, have been added in the form of dummy variables. The age of respondents is included with and without the square term to account for the non-linear U-shaped relationship between life satisfaction and age. To control for the local economic situation, regional GDP per capita is included in the regressions, based on data from BAK Basel.[12]

3.4.2 Empirical Strategy

The effect of the ECOC on individual life satisfaction is first captured by a raw comparison of mean values. The crucial event that occurs is a region's hosting of an ECOC in a certain year. Figure 3.4 depicts the average life satisfaction of the regions hosting an ECOC in comparison to all other regions in all other time periods. Figure 3.4 reveals that the individuals living in the host regions have a significantly lower average life satisfaction. In a host region, average life satisfaction in the year of the event is 2.94 (out of 4) – in the other regions it is 3.05.

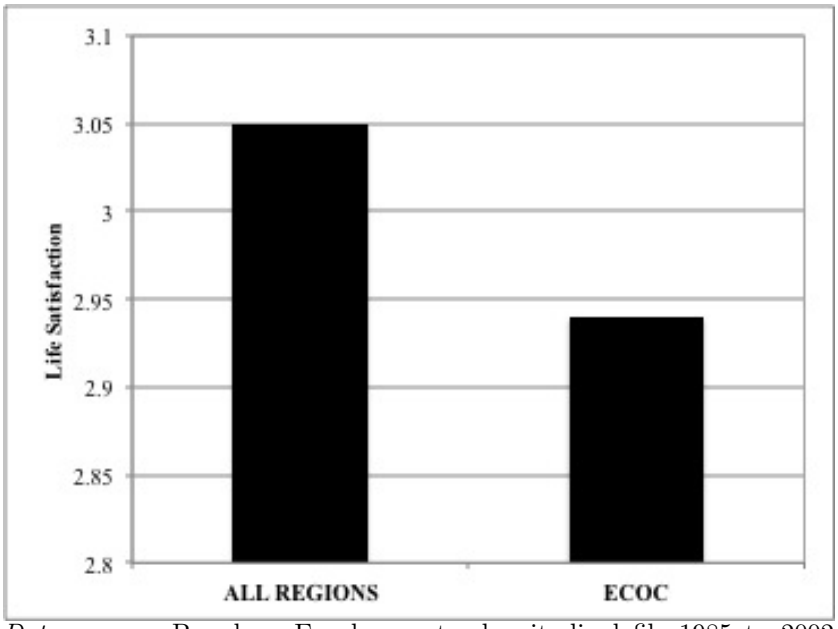
However, raw life satisfaction differences may also reflect various characteristics that distinguish ECOC regions from other regions. The multivariate regression presented in Table 3.4 controls for a multitude of such characteristics. The empirical analysis follows the specifications of a subjective well-being function (see for example Frey and Stutzer, 2002; Frey, 2008b). To measure the impact of hosting an ECOC, we perform the following micro-economic difference-in-difference estimation:

$$LS_{ijt} = \beta_0 + \beta_1 ECOC_{jt} + \gamma z_{ijt} + \beta_2 m_{jt} + w_j + T_t + \varepsilon_{ijt} \tag{3.2}$$

LS_{ijt} is the reported life satisfaction, a measure of subjective well-being of individual i in region j at time t. The treatment effect, in this chapter the occurrence of the ECOC

[12]Further information on the variables is given in Table A.5 and A.4 of the Appendix.

Figure 3.4: Average Life Satisfaction in ECOC-Host-Regions and Non-Host-Regions



Data source: Based on Eurobarometer longitudinal file 1985 to 2002 (European Commission, 2010)

in region j at time t, is represented by the term $ECOC_{jt}$. In the simplest set-up of a difference-in-difference model, outcomes are observed for 2 groups over 2 periods. The treatment group is exposed to a specific event in the second period but not in the first period. The control group is not exposed to the treatment during either period. Citizens of an ECOC region represent the treatment group, and individuals from other European regions represent the control group. The average change of the outcome in the control group is subtracted from the average change of that outcome in the treatment group. This removes biases in second-period comparisons between the treatment and control groups that could be the result of permanent unobserved differences between the two groups, as well as biases from comparisons over time in the treatment group that could be the result of trends. When estimating a multiple group and time-period setting, the coefficient β_1 reflects the difference-in-difference estimator. Vector z captures individual-level determinants of life satisfaction such as age or gender, log-income or education. The term m_{jt} captures GDP per capita growth at the regional level as a macro-economic control. Region-fixed effects w_j take into account unobserved time-invariant location factors. In addition, a set of time-fixed effects capturing unobserved location-invariant factors over time, such as major macro-economic shocks, are included by the term T_t.

ε_{ijt} is the error term. Because the treatment variable (hosting an ECOC) only varies at the regional level, standard errors are clustered at that level. The regressions are estimated with an OLS model. Life satisfaction is an ordinally-scaled variable, which would suggest an ordered response model. However, OLS models have the advantage that the estimated coefficients are easier to interpret, and experience shows that they are a close approximation of estimations of life satisfaction (Ferrer-i Carbonell and Frijters, 2004).

3.4.3 Difference-in-Difference Estimations

Table 3.4 shows the results of the difference-in-difference estimations of the impact of an ECOC on individual life satisfaction. A negative and statistically significant impact is found in all three specifications (ECOC coefficient), suggesting that hosting an ECOC lowers the subjective well-being of the persons living in the corresponding region.

Regression 1 in Table 3.4 shows the raw difference between regions hosting an ECOC and all other regions. The coefficient is significant at the 90% level. Regression 2 (Table 3.4) includes standard socio-economic and socio-demographic control variables at the individual level. The coefficients of the control variables all show the expected signs. Regression 3 (Table 3.4) includes GDP per capita growth as a macro-economic control, year fixed effects to control for large yearly fluctuations, and region fixed effects to control for time-invariant regional factors, such as institutional differences or geographical conditions. Compared to the raw difference, the estimated ECOC coefficient decreases by one fifth of its initial size. When a region hosts an ECOC, the life satisfaction of the local population decreases roughly by 0.09 on the four-point scale. The size of the effect equals one fourth of the effect of being unemployed (compared to being employed) and thus is quite sizable. Possible explanations for this decrease are factors similar to those found in connection with other mega-events:[13]

- The increased number of tourists causes noise, disturbance, overcrowding of public places and overcrowding of means of transportation, thus pushing up prices.

[13]Possible channels for a positive of negative impact of European Capitals of Culture on life satisfaction are cultural supply, prestige, education, noise, construction, trash, crime, tourism or an increase in prices. We cannot verify the channel through which the life satisfaction of the regional population is influenced, since no data exist on the regional level (NUTS2) for enough countries and years for any of these factors.

Table 3.4: The Effect of Hosting a European Capital of Culture on Life Satisfaction

	(1) Univariate	(2) Micro Controls	(3) Micro Controls, Macro Controls and Fixed Effects
ECOC	-0.108*	-0.137***	-0.0869**
	(-1.798)	(-3.134)	(-2.335)
Ln (income)		0.295***	0.185***
		(12.42)	(18.32)
Household size$^{1/2}$		-0.140***	-0.0512***
		(-5.332)	(-5.479)
Years of education		0.0124***	0.00948***
		(5.526)	(6.756)
Employed		Reference group	
Unemployed		-0.286***	-0.297***
		(-9.876)	(-15.82)
Retired		-0.0126	0.0207**
		(-0.765)	(2.113)
Gender (Man=1)		-0.0388***	-0.0368***
		(-5.861)	(-6.811)
Age		-0.0227***	-0.0200***
		(-19.04)	(-19.63)
Age^2		0.000256***	0.000211***
		(20.64)	(21.22)
Single		Reference group	
Married		0.0630***	0.0914***
		(4.049)	(12.27)
Living together		0.0248	0.00309
		(1.342)	(0.307)
Divorced		-0.140***	-0.137***
		(-7.462)	(-10.89)

continues on next page

Separated		-0.193***	-0.198***
		(-8.772)	(-8.345)
Widowed		-0.0800***	-0.0610***
		(-6.177)	(-5.856)
No children		Reference group	
One child		0.00359	-0.0182***
		(0.380)	(-3.158)
Two children		0.0567***	-0.00795
		(4.311)	(-1.039)
Three children		0.107***	-0.0112
		(5.390)	(-0.839)
Four children		0.133***	-0.0352
		(3.958)	(-1.583)
GDP per capita growth			0.000506
			(0.309)
Constant	3.050***	1.512***	2.184***
	(73.99)	(11.48)	(30.41)
Year fixed effects	No	No	Yes
Region fixed effects	No	No	Yes
Observations	507,325	148,719	146,770
R^2	0.000	0.121	0.189

Notes: The dependent Variable is life satisfaction; scale 1 (not satisfied) to 4(fully satisfied). ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Robust clustered standards errors. t-statistic in parenthesis. In columns 2 and 3 the number of observations is reduced, due to missing values of the control variables. *Data source*: Eurobarometer 1980-2002, GDP from BAK Basel 1980-2002.

- A re-allocation of public funds towards activities connected with the event takes place, which does not necessarily reflect the preferences of the local population.

- A further explanation is suggested by Hall and Hodges (1998), whose analysis emphasizes the effects of sporting mega-events on the housing market and land values. The authors claim that the building of event-related infrastructure can involve housing relocation because of the compulsory purchase of land for clearance and building. It may also lead to a rise in rents and house prices, negatively affecting people with low incomes living in these areas. Negative social impacts have also been identified in connection with the 1996 Atlanta Olympic Games. Between 1990 and 1995, 9,500 units of affordable housing were lost and US$ 350 million of public funds were diverted from low-income housing, social services, and other support services for homeless and poor people to Olympic preparation (Beaty, 1998). Moreover, at the time when Olympic-related infrastructure was at its peak, house prices rose 7% above inflation, compared to the usual 2% (Horin, 1998).

3.4.4 The Effect on Various Socio-Economic Groups

The difference-in-difference estimations show a negative average effect on life satisfaction of the population in a region hosting an ECOC. To investigate which subgroups of the population are affected more or less strongly by hosting the event, we employ interaction effects. In Table 3.5 we estimate the interactions of hosting an ECOC with socio-economic individual determinants. The estimations are based on column 3 of Table 3.4.

In regression 1 in Table 3.5, the variable ECOC is interacted with household income. The resulting coefficient is positive but not significant. Thus, the (negative) impact of hosting an ECOC on the local population's life satisfaction does not depend on income. Individuals from households with either high or low income suffer to a similar degree from such an event.

The interaction of education and the variable ECOC is significant and positive (column 2 in Table 3.5). The highest level of education received is measured by the age at which an individual graduated. The higher this age, the more education someone enjoyed. The positive and significant interaction effect suggests that more highly educated individuals suffer less from hosting an ECOC. Approximately ten years of additional education offsets the negative effect of the event; this equates, for example, with the difference in life

Table 3.5: Interactions of European Capitals of Culture and Socio-Economic Sub-Groups

	(1) Income	(2) Education	(3) Unemployment	(4) Retirement	(5) GDPPC growth
ECOC	-0.272	-0.134***	-0.0792***	-0.0950**	-0.213***
	(-1.570)	(-3.098)	(-5.107)	(-2.324)	(-5.345)
Ln(income)	0.184***	0.185***	0.185***	0.185***	0.185***
	(18.00)	(18.33)	(48.53)	(18.32)	(18.36)
ECOC ∗ Ln(income)	0.0260				
	(1.086)				
Education	0.00948***	0.00932***	0.00948***	0.00948***	0.00949***
	(6.754)	(6.687)	(12.60)	(6.751)	(6.797)
ECOC ∗ Education		0.0108**			
		(2.296)			
Unemployed	-0.297***	-0.297***	-0.295***	-0.297***	-0.297***
	(-15.86)	(-15.82)	(-39.40)	(-15.84)	(-15.84)
ECOC ∗ Unemployed			-0.0905*		
			(-1.715)		
Retired	0.0207**	0.0208**	0.0206***	0.0202**	0.0209**
	(2.111)	(2.121)	(3.396)	(2.042)	(2.134)
ECOC ∗ Retired				0.0355	
				(0.883)	
GDP per capita growth	0.000510	0.000493	0.000497	0.000504	0.000148
	(0.311)	(0.301)	(0.689)	(0.308)	(0.0905)
ECOC ∗ GDP per capita growth					0.0449***
					(2.900)
Constant	2.186***	2.184***	2.184***	2.184***	2.177***
	(30.08)	(30.44)	(65.84)	(30.41)	(30.64)
Individual controls	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Region fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	146,770	146,770	146,770	146,770	146,770
R^2	0.189	0.189	0.189	0.189	0.190

Notes: The dependent Variable is life satisfaction; scale 1 (not satisfied) to 4 (fully satisfied); We use the same control variables as in Table 3.4. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Robust clustered standards errors. t-statistic in parenthesis. *Data source*: Eurobarometer 1980-2002, GDP from BAK Basel 1980-2002.

satisfaction between leaving high school at the age of fifteen and university at the age of twenty-six. This result is plausible considering that more highly educated individuals tend to visit cultural events more often. Individuals with higher education thus profit from the extended cultural supply more than individuals with lower education. This partly offsets the negative effects of hosting the event for better-educated people.

While the effect of hosting an ECOC does not differ with respect to household income, the interaction with being unemployed is negative and significant (column 3 in Table 3.5). Being unemployed roughly doubles the negative effect of hosting an ECOC, from -0.08 to -0.17.[14] Since unemployment is correlated with education and thus cultural attendance, the same logic applies as for the lower-educated: Unemployed individuals bear more of the cost of hosting this event (noise, disturbance, construction, congestion, and especially higher prices), while not profiting from attending cultural events in the same way that the employed or the better educated do. The interaction with being retired is positive but insignificant (column 4 in Table 3.5). Hosting an ECOC decreases the life satisfaction of the retired to the same degree as of the non-retired, even though retired persons have more disposable time (for example to visit cultural events).

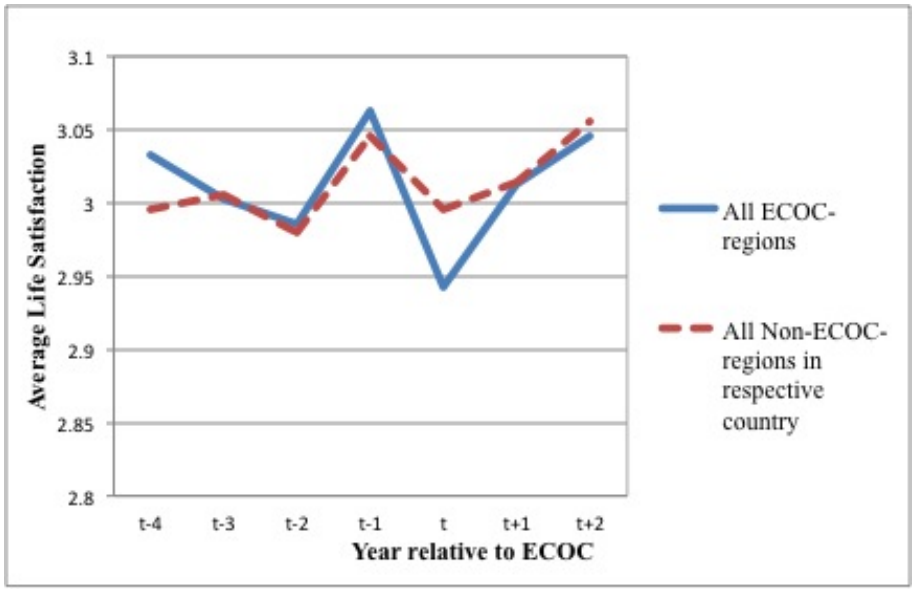
The interactions estimated so far have dealt with differences at the individual level. It is also possible that the effect of hosting an ECOC varies between regions with a different level of economic development. To investigate possible differences at a macro-economic level, we estimate interaction effects of ECOC and GDP per capita growth (column 5 in Table 3.5). The resulting coefficient is positive and significant. Faster growing regions suffer less from hosting the event. An additional economic growth of roughly 4% offsets the effect of hosting an ECOC. This amount is not only statistically significant; it is also economically quite large.

3.4.5 Announcement and Legacy Effects

The previous estimations do not rule out reverse causality, which would occur if cities with a lower average happiness are nominated by the European selection committee. The European Capital of Culture title has indeed been given to cities such as Glasgow or the Ruhr in order to foster urban renewal and stimulate economic development.

[14]The total effect of hosting a European Capital of Culture on the unemployed is the sum of the coefficient for being unemployed, -0.0792, and the interaction coefficient, -0.0905.

Figure 3.5: Average Regional Life Satisfaction Before and After Hosting a European Capital of Culture



Data source: Based on Eurobarometer longitudinal file 1985 to 2002 (European Commission, 2010)

To rule out reverse causality, we look at the average happiness 4 years before hosting the event. This approach allows us to check for announcement effects, which might arise after a city has been nominated. Announcement effects potentially lead to an increase in happiness, due to anticipation or to economic stimulus. Happiness decreases if disturbance by construction works or re-allocation of public funds dominate. In our sample, the nomination takes places 2 years before the event year. We include lagged variables of the treatment dummy for the 4 years prior to the event. With the first two lags (t-1, t-2), we can capture announcement effects. The third and fourth lags (t-3, t-4) help us identify causality issues. We also look at the 2 years following the event to check whether hosting an ECOC has a legacy effect on the average life satisfaction of the local population.[15] Figure 3.5 shows the average life satisfaction of a region that hosts an ECOC compared to other regions in the same country over time.

Average life satisfaction follows the same pattern and the difference between ECOC and non-ECOC regions is statistically insignificant before and after the event in most years (see Figure 3.5). However, in the year of the event, life satisfaction in the ECOC

[15]We do not include more leads, since our dataset ends in the year 2002. By including three lags we would lose the years 2000, 2001 and 2002, and with those 13 of our 24 Cultural Capitals. This would lead to biased estimates of the coefficient of the third lag.

region decreases strongly and is significantly lower than in other regions. One year prior to the event, the average life satisfaction is somewhat higher than in other regions, which suggests a small anticipation effect. A similar result was found for the Sydney Olympics in the year 2000. Two years prior to the event, respondents held very positive attitudes towards Sydney 2000. The level of enthusiasm increased further and was significantly more positive in the year of the actual event (Waitt, 2003). For the ECOC, after the event, average life satisfaction recovers to the same level as in the other regions one year after the event and remains at a similar level in the following years. Since average life satisfaction in the treatment regions four to two years before the event is not significantly different from other regions, reverse causality does not seem to be an issue. There may be spillover effects to the country as a whole, because a city in that nation has been chosen to host the prestigious event. This is more likely to hold for small countries like Belgium or the Netherlands. In larger countries like France and Spain, it seems unlikely that the whole nation is influenced by the cultural event.

Average life satisfaction can be influenced by many different factors. To control for macro- and micro-economic factors that have an impact on well-being, we perform the same regressions as in column 1 and 3 (Table 3.4) – but we now include four lags and two leads of the treatment dummy (hosting an ECOC). Regression 1 in Table 3.6 includes socio-economic individual control variables. Regression 2 (Table 3.6) includes individual controls as well as macro-economic controls and region and year fixed effects. Table 3.6 shows the regression specifications with lags and leads.

In both specifications, the coefficient of the treatment dummy (ECOC) is negative, significant, and has the same size as in the previous estimations. All four coefficients of the lagged treatment dummy are insignificant. Announcement effects can occur only after a city has been nominated, which takes place two years prior to the event. The nomination of a city could lead to an increase in happiness, by anticipation or economic stimulus. Happiness decreases if disturbance by construction works or re-allocation of public funds dominate. The insignificance of the one- and two-year lags lag speaks against anticipation effects, which could occur only after the announcement. It might also be the case that positive and negative effects cancel each other out.

The three- and four-year lags are the years before the nomination. The insignificance of these lags rules out reverse causality, as it is not the case that the ECOCs are hosted

Table 3.6: Announcement and Legacy Effects of Hosting a European Capital of Culture

	(1) Univariate	(2) Multivariate
ECOC t-4	-0.0190	-0.0273
	(-0.151)	(-1.009)
ECOC t-3	-0.0493	0.00458
	(-0.638)	(0.143)
ECOC t-2	-0.0668	-0.0664
	(-0.940)	(-1.431)
ECOC t-1	0.0112	-0.0246
	(0.172)	(-0.774)
ECOC t	-0.110*	-0.0901**
	(-1.755)	(-2.334)
ECOC t+1	-0.0388	-0.0169
	(-0.736)	(-0.762)
ECOC t+2	-0.00604	-0.00483
	(-0.0880)	(-0.152)
Constant	3.052***	2.182***
	(75.83)	(30.60)
Individual controls	No	Yes
Macro controls	No	Yes
Year fixed effects	No	Yes
Region fixed effects	No	Yes
Observations	507,325	146,770
R^2	0.001	0.189

Notes: The dependent Variable is life satisfaction; scale 1 (not satisfied) to 4 (fully satisfied); We use the same control variables as in Table 3.4. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. Robust clustered standards errors. t-statistic in parenthesis. In column 2 the number of observations is reduced, due to missing values of the control variables. *Data source*: Eurobarometer 1980-2002, GDP from BAK Basel 1980-2002.

in regions that were already unhappier before the event or before the nomination took place.

Proponents of a mega-event often use positive legacy effects as an argument in favor of hosting such an event. However, the coefficients of the two years after hosting the event (ECOC t+1 and ECOC t+2) are insignificant. This finding indicates that there are no positive (or negative) legacy effects on the average happiness of the local population. We measure the net effect on average happiness of the local population. As shown in section 3.4.4, the effect differs for different socio-economic sub-groups. It might also well be that, at a given point in time, the effect of hosting an ECOC has positive and negative effects, which in turn offset each other.

3.5 Conclusion

In this study, we apply the life satisfaction approach to measure the impact of a major cultural event on the subjective well-being of the local population. When a city hosts the European Capital of Culture, the supply of culture increases substantially, with an average of 500 additional events taking place in that year. A wide scale of activities is offered, ranging from traditional forms of art such as theaters and exhibitions of visual art to a broader definition of culture, including sport and food festivals. The goal of including citizens in the program leads to celebrations and open-air events being held, and many projects being implemented in public spaces. Furthermore, a large number of free events are included in the program. Large investments in infrastructure have been made in most cities hosting an ECOC. Remodeling public spaces and transportation systems, urban renewal, and the construction of museums and concert halls are said to have changed the appearance of these cities (Palmer, 2004b).

Previous economic studies concerning the ECOC have focused on single economic indicators, such as tourism, construction or government spending, disregarding substitution effects or the crowding out of private investment. We investigate the impact of hosting an ECOC on regional GDP per capita and economic growth. Descriptive statistics suggest that hosting this event increases the GDP per capita and growth in the region concerned. However, when estimating multivariate regressions with macro-economic control variables and time and region fixed effects, the correlation disappears. The higher average GDP

per capita of regions hosting an ECOC is simply driven by the circumstance that this event takes place in urban regions, which are better developed.

Even a positive and significant effect of hosting an ECOC on GDP per capita would not imply a positive impact on the individual utility or social welfare of the regional population. We use the more comprehensive life satisfaction approach, in which each individual implicitly weighs the relative importance of advantages and disadvantages of hosting an ECOC. All estimates suggest a significant *negative* impact on the individual life satisfaction of the local population during the year in which the ECOC is hosted. We find no effect in the years after the event. Furthermore, hosting an ECOC has no effect in the four years prior to the event, thus ruling out causality problems. These would arise if the events were hosted in regions whose populations are unhappier anyway.

The dissatisfaction during the event may be due to the high levels of public expenditure, increases in the general level of prices or housing prices, more crimes, disruption through building sites and the influx of tourists in connection with the hosting of the mega-event. Further research is needed to clarify the channels through which hosting an ECOC exerts influence on individual life satisfaction.

Chapter 4

The UNESCO World Heritage List: An Economic Analysis[‡]

4.1 The World Heritage List

4.1.1 The UNESCO Convention

In the 1920s, the League of Nations became aware of the growing threat to the cultural and natural heritage of our planet. Nothing concrete emerged despite many years of intensive discussions and drafting of reports. In 1959, the United Nations Educational, Scientific and Cultural Organization (UNESCO) launched a spectacular and successful international campaign to save the Abu Simbel temples in the Nile Valley. In 1966, the UNESCO also spearheaded an international campaign to save Venice after disastrous floods threatened the survival of the city. At its 17th session in Paris in November 1972, the General Conference of UNESCO adopted the Convention Concerning the Protection of the World Cultural and Natural Heritage. It came into force in 1977 and was ratified by 20 nations. The Convention "seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity".[1]

[‡]Parts of this chapter are based on: Frey, Bruno S. and Lasse Steiner (2011). World Heritage List: Does it Make Sense? *International Journal of Cultural Policy*,17(5):555-573; Lasse Steiner and Bruno S. Frey (2012). Correcting the Imbalance of the World Heritage List: Did the UNESCO Strategy Work? *Journal of International Organizational Studies*, 3(1):25-40; Frey, Bruno S., Paolo Pamini and Lasse Steiner (2013). Explaining the World Heritage List: An Empirical Study. *International Review of Economics*, 60(1):1-19.

[1]See http://whc.unesco.org/en/about/, accessed on 29.1.2013

To date, 190 state parties have ratified this Convention, and the World Heritage List currently has 962 sites, 745 (or 77%) of which relate to culture, 188 to nature, and 29 are mixed combining cultural and natural heritage.[2] Over the last decades the World Heritage List has become very popular, and most World Heritage sites are major attractions for cultural tourism as well as being icons of national identity (Shackley, 2006). Many regard the UNESCO List as "the most effective international legal instrument for the protection of the cultural and natural heritage" (Strasser, 2002, p. 215).

The sites to be included in the List were initially evaluated in a somewhat ad hoc fashion by the advisory bodies to the World Heritage Committee. The Convention's criterion of "outstanding value to humanity" is noble but has proven to be almost impossible to define clearly. An important development has been to establish ten criteria for inclusion in the World Heritage List, which are described in detail in the *Operational Guidelines for the Implementation of the World Heritage Convention* (UNESCO, 2005) and accessible online.[3] Nominated sites must meet at least one of the ten criteria, and these are applied in connection with three comprehensive aspects: uniqueness, historical authenticity and integrity. If a site meets at least one cultural and one natural criterion, the property is classified as a mixed site.

The first six criteria refer to cultural sites:

1. to represent a masterpiece of human creative genius;

2. to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

3. to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

4. to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

[2] After the 36th ordinary session of the World Heritage Committee, held in Saint Petersburg on 24th June – 6th July 2012, see http://whc.unesco.org/en/list (accessed on 29.1.2013). A comprehensive survey of the design and development of the World Heritage Convention and the corresponding institutions (the World Heritage Convention, the World Heritage Committee and the World Heritage Centre) is provided, for example, in Strasser (2002)

[3] See UNESCO homepage http://whc.unesco.org/en/criteria/, accessed on 29.1.2013

5. to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

6. to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);

The last four criteria concern natural sites:

7. to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

8. to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

9. to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

10. to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

The composition of the World Heritage List is the outcome of actions by three different bodies: the state parties that nominate the sites, the World Heritage Committee that formally decides on inclusion on the List, and two advisory boards.

- The sites to be included in the List must be proposed by member governments of the respective state parties. Mayors, district governments or heritage experts may only make proposals for inclusion on the tentative list. Sites are only officially nominated when a country hands in a complete nomination document.

- A nominated property is independently evaluated by two advisory bodies[4] mandated by the World Heritage Convention: the International Council on Monuments and Sites (ICOMOS) and the World Conservation Union (IUCN), which respectively provide the World Heritage Committee with evaluations of the cultural and natural sites nominated. It has been claimed that "The scrutiny of these systems by the two Advisory Boards is now rigorous..." (Cleere, 2006, p. xxii).

- The World Heritage Committee meets once a year and consists of representatives from 21 of the member countries. It is elected by the General Assembly of the members of the Convention for terms up to six years. The Committee is the final decision-making body, whose responsibilities include the World Heritage List, the List of World Heritage in Danger, administering the World Heritage Fund and decisions on financial assistance. The World Heritage Convention is different from many other international Conventions, because all substantive powers are designated to the Committee and not the General Assembly. The intention of the Convention is an equitable representation of the world's regions and cultures on the Committee (Art. 8 [2]). However, nowhere in the Convention are the means to achieve this aim specified.

4.1.2 Literature

Accompanying the increasing popularity of the List, a large social science literature on world heritage and the UNESCO program has emerged (recent contributions are, for example, Leask and Fyall, 2006; Harrison and Hitchcock, 2005; Leask and Yeoman, 2004; Howard, 2003). Certain aspects have received special attention: the process of designation with respect to its formal nature, the participating stakeholder groups, the politics behind the List (see for example, Millar, 2006; Cleere, 2006), the consequences of inclusion, especially with respect to tourism (see for example, Tunney, 2005; Cochrane and Tapper, 2006), and visitor management (see for example, Shackley, 2006; McKercher and Cros, 2001). There are also studies of individual sites, for example, for Stonehenge (Mason and Kuo, 2006), for Machu Picchu (Regalado-Pezúa and Arias-Valencia, 2006), for the Yellow

[4] A third advisory body, the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM), is an intergovernmental organization which provides the Committee solely with expert advice on conservation of cultural sites and training activities, *after* a site has been nominated.

Mountain in China (Li Fung and Sofield, 2006), or for Angkor Wat (Wager, 1995). The consequences of being listed, in particular, the number of visitors frequenting the sites, are studied in Yang et al. (2009), Bonet (2003) and Tisdell and Wilson (2002). It has been demonstrated that, once sites are placed on the List, they experience a significant increase in tourists. While this is welcome for firms offering tourist services, in particular hotels and restaurants, there is some concern that too large a number of tourists may negatively affect the heritage sites.

In economics, there are noteworthy contributions by Van der Aa (2005) and Santagata et al. (2008). More recent papers on political and economic aspects of the List include Bertacchini et al. (2011), and Frey and Pamini (2010, 2009). An excellent analysis of general heritage issues as well as financial consequences is provided in Peacock and Rizzo (2008). Other cultural economists argue that the past is important to understanding and appreciating the present, and that the past is an important part of the identity of a nation, region or local unit, as well as of the people living therein. These economists try to capture the impact of heritage sites on individual utility as well as on the utility of preserving the past for future generations (see for example, Streeten, 2006; Benhamou, 2003; Throsby, 2003; Klamer and Throsby, 2000; Peacock, 1978).

The central task of the World Heritage Convention – to protect the global public goods of "world cultural and natural heritage" and at the same time to achieve some measure of representativeness among continents and countries – links closely to various topics analyzed in international organizations research. The role of international organizations in the provision of global collective goods or global commons and the respective international cooperation agreements, international regimes and international institutions are examined, for example, by Keohane and Zeckhauser (2003) and Koremenos et al. (2001). These studies indicate both the importance and the difficulties of providing public goods in a global context. As long as there is no world government with effective sanctioning power, the provision of global public goods such as mankind's common heritage is uncertain and unstable. In the case of heritage, many nations make a strong effort toward having their national heritage sites put on the List, as they can derive substantial commercial benefit as well as prestige from such listings. However, a central question of this chapter is whether the resulting List really presents a balanced picture of world heritage.

International organizations do not necessarily work as intended. They may be dys-

functional with regard to their official purpose (see for example, Martinez-Diaz, 2009; Grant and Keohane, 2005). The incentives that actors in these organizations face may lead them to pursue their own interests, or the interests of pressure groups, rather than the official goal of the organization (see for example, Peterson, 2010; Carpenter, 2007). This is an imminent danger in an organization such as the World Heritage Centre, which does not have to report to the UNESCO General Assembly. Even if it had to do so, there would still be strong incentives inducing the decision makers to deviate from the organization's official goal.

The political influence of the national representatives in international organizations has been the subject of studies by, for example, Oatley and Yackee (2004) and Dreher et al. (2009). These authors demonstrate that the career patterns of the national representatives significantly influence their behavior. As long as they are part of the national civil service and aspire to rise in its ranks, they have an incentive to serve their own personal aspirations and to put the interests of their own country first. In section 4.4, we show empirically that factors unrelated to the value of heritage have a systematic impact on the composition of the UNESCO List.

The World Heritage List is generally considered an excellent effort to save the globe's common history in the form of cultural monuments and landscapes worth preserving. This paper takes a more critical stance. It fully appreciates the undisputed and well-known positive effects of having such a list based on a careful selection process, but it also examines possible negative consequences (section 4.2). We focus on the strongly unequal distribution of sites across countries and continents and analyze whether the UNESCO Global Strategy for a more balanced List has been able to mitigate the inequality over time (section 4.3). A highly unequal distribution suggests that political and economic factors play a role in the selection of sites, since a nomination for the List attracts many different political actors (section 4.4). An evaluation of the value of the List depends on whether there are superior alternatives such as the market or national lists. It is necessary to identify the conditions under which the World Heritage List is beneficial, and under which it is detrimental. We further suggest an innovative selection mechanism (section 4.5). It is concluded that in many cases the selection of the World Heritage List constitutes a great step forward, but that alternative approaches should be considered in those cases in which the World Heritage List typically produces detrimental results (section 4.6)

4.2 Implications of the World Heritage List

4.2.1 Positive Aspects

The World Heritage List can be considered a collective international effort to safeguard our planet from destruction, similar to the efforts with respect to the global environment. The beneficial consequences of the UNESCO List refer to two general aspects: the direction of attention, and the specific protection provided.

Attention

The List attracts the attention of various actors: The *general public* is informed about particularly important cultural and natural sites to be protected. Inclusion on the List is accompanied by considerable media resonance. This is important because it propagates the information to a larger number of people. Indeed, inclusion in the List is considered to be a great honor for the respective nation and attracts a great deal attention from newspapers, radio and TV. World Heritage sites are widely used in marketing campaigns to promote national tourism. A higher number of visitors increases the revenue from tourism to the site. There is a positive relationship between the number of World Heritage sites and the number of tourist arrivals per country (Lazzarotti, 2000). Controlling for various other factors, Yang et al. (2009) shows empirically for China that being on the List has a significant tourism-enhancing effect. An increase in a region by one World Heritage site induces about six times the amount of international tourist arrivals as for the highest ranked sites on the most prominent national Chinese List. In a series of case studies, Van der Aa (2005) confirms the positive effect on tourism. Although there is no significant increase in the number of visitors at sites that are already established visitor attractions, there is a significant increase at less established sites. A listing has a higher impact on the number of foreign visitors. For instance, the number of visitors to Tárraco, an archaeological ensemble in southern Spain, more than tripled, from about 300,000 in the late 1990s to one million in 2003.

Public decision-makers are made aware of the great importance of particular cultural and natural sites within their country. They have an incentive to respond by securing the sites selected by UNESCO not only because they have proposed them to the World Heritage Commission but also because they can gain prominence and votes by engaging

themselves on behalf of the national sites on the List.

The attention of *potential donors* is attracted. People giving money for cultural, artistic or religious purposes might be willing to give more to objects on the UNESCO List. In addition, new donors might be attracted by the increased popularity. One example is the Verein zur Erhaltung des Hohen Doms zu Aachen e.V (Association for the Preservation of the Aachen Cathedral), which offers the possibility to give donations or to become a sponsor or club member to help protect the cathedral.

For-profit firms may find ways and means to exploit the prominence of World Heritage sites either by catering to tourists visiting the sites, or by sponsoring a particular World Heritage site. In both cases, the administrators of the sites have more money available to maintain them.[5]

Protection

The maintenance of a listed World Heritage site remains the responsibility of the country in which it is located. The World Heritage Convention text is "designed to incite action rather than to prescribe action" (Musitelli, 2002, p. 324). The involvement in the process of getting on the World Heritage List strengthens a country's relationship with the international heritage movement. The World Heritage Commission offers technical help to preserve the sites on the List. Further, the Committee stipulates the necessity of management plans, which are considered to be useful tools since different stakeholders work together Shackley (2006). These factors tend also to be beneficial for sites not on the List, or not yet on the List. It should be noted that inclusion in the List is not accompanied by financial support from UNESCO. The corresponding fund for all sites is only US$4 million per year, which is minimal in view of the over 900 sites listed.[6] The lack of money in the World Heritage Fund results partly from the fact that most countries prefer to spend money through bilateral rather than multilateral cooperation. The costs of administering the World Heritage List are negligible; the total budget required simply to manage the World Heritage Convention (including personnel costs and activities such as promotion) amounts to more than US$11 million (UNESCO, 2005). The World

[5]This only holds provided they can keep the additional revenue, which is uncertain since additional revenue often results in cutting regular funds.

[6]The typical funds for emergency, preparatory or management assistance vary between US$5,000 and US$75,000 and are authorized by the Director of the World Heritage Centre or the Chairperson of the Committee. Higher amounts have to be approved by the whole Committee.

Heritage Fund is allocated according to three principles: the importance of safeguarding a site, the urgency of intervention and the capacity of the country where the site is located. Money from the World Heritage Fund is mainly available for endangered sites in poorer countries, as the available financial resources are limited. Most funds have gone to African countries (26%), while European and North American countries (15%) and Arab countries (13%) have received the smallest amount of money (Van der Aa, 2005). The positive implications of being nominated for the UNESCO List are well known and have been discussed extensively in the literature. Without deprecating these efforts to protect global heritage, in the following we focus on often disregarded negative effects of the List.

4.2.2 Negative Aspects

Four undesirable aspects can be identified with respect to the UNESCO List: questionable selection of the sites on the List; overextension with respect to the number and types of sites; substitution effects burdening non-listed cultural and natural sites; and destruction by an excessive number of visits to the sites, in war, or by terrorists seeking a well-publicized target.

Questionable Selection

The selection of which cultural and natural sites should be included in the List is strongly influenced by experts represented in the two advisory groups, ICOMOS and IUCN. In most cases, the Committee follows the experts' recommendations. They rely on their knowledge as art historians and conservators, but "the concept... has never been the object of a truly operational definition" (Musitelli, 2002, p. 329). No willingness-to-pay studies are undertaken to determine the value, at least not in a way that satisfies cultural economists (see for example, Sunstein, 2007; Seaman, 2002; Hansen, 1997). Such studies seek to capture the utility gained by a representative sample of the population rather than the opinion of experts. It can well be argued that the general population often knows little or nothing about the sites in question and that therefore the willingness to pay stated is of little relevance.

The questionable selection may be illustrated by some pertinent examples. In Switzerland, the old town of Berne is listed, but not the old towns of, say, Lucerne or Basel. The Benedictine Convent of St. John at Mustair and the monastery of St. Gallen are listed,

but not the similarly important and ancient Benedictine monasteries of Engelberg and Einsiedeln. In all cases, it is difficult to argue why the latter are excluded. To provide an example from a totally different culture, the Djongs of Bhutan, which are of great art historic importance, are not listed even though Bhutan has been a member of the Convention since 2001. Many more examples of important properties missing from the List could easily be adduced, such as the Cambridge Colleges, the old town of Sarajevo, or Mecca and Medina.

Being on the UNESCO List is highly desired by many actors as it brings prominence and monetary revenue; one may even speak of a "heritage industry" (Johnson and Thomas, 1995). As a consequence, the process of getting on the List is subject to rent seeking (for the basic concept of rent seeking see Mueller, 2003; Tollison and Congleton, 1995; Buchanan, 1980). It has been highly politicized, as many political and bureaucratic representatives of countries consider it a worthwhile goal from which they personally profit. As a consequence, the selection is subject to political pressures and is not solely determined by the ten purportedly objective criteria listed above. A site's rejection leads to disappointment, so decision makers at the national level try to keep the number of rejections as low as possible by only nominating sites that have a high chance of inscription (Van der Aa, 2005). While the goal of the whole project is to protect sites of central importance for humanity, not unexpectedly, national interests dominate global interest. "The rhetoric is global: the practice is national" (Ashworth and van der Aa, 2006, p. 148). The intention of only accepting nominations from state parties and not, e.g. from interest groups or NGOs, is to assure a high level of consent. However, there is a tendency for state parties to nominate sites of national importance without taking into consideration the concept of "outstanding universal value" (Strasser, 2002). Francesco Bandarin, Director of the World Heritage Centre, adds: "Inscription has become a political issue. It is about prestige, publicity and economic development" (Henley, 2001, p. 1).

Some countries are more active than others in securing sites to be included on the List. About two-thirds of the state parties that signed the Convention have never been elected to the Committee. There is a direct correlation between participating in the Committee and representation on the List. The 21 members of the Committee nominated more than 30 % of listed sites between 1978 and 2004 (Van der Aa, 2005). One extreme example of questionable selection occurred in 1997, when ten Italian sites were included on the List

at once, while the chairmanship of the Committee was held by a an Italian citizen at that time. Also, the place and country where the Committee holds its annual meeting seem to have an impact on the number and kind of nominations (as it happens, the meeting in 1997 was held in Naples, see Cleere, 1998)

Some scholars even question the legitimacy of the List. Meskell (2002) argues that the concept of World Heritage is flawed by the fact that it privileges an idea originating in the West, which requires an attitude toward material culture that is distinctly European.[7]

Besides the Western concept, affluent countries seem to have benefited most from the Convention. According to a Report of the World Commission on Culture and Development published in 1999 the World Heritage List "was conceived, supported and nurtured by the industrially developed societies, reflecting concern for a type of heritage that was highly valued in those countries" (World Commission on Culture, 1995, p. 178). Moreover, many countries do not have the conservation infrastructure necessary to allow them to prepare nominations to the List at a sufficiently sustained pace to improve its representativeness. State parties from Europe are most active with respect to nominating sites (Strasser, 2002). According to the Convention, the state parties must identify and delineate the property (Article 3) and must ensure the identification, protection, conservation, presentation, and transmission to future generations (Article 4). These requirements put a heavy burden on countries wishing to put a site on the List.

Indeed the distribution of sites on the List among countries and continents is highly unequal. Almost 50% of the sites are located in Europe, a peculiarity we will explore in depth in section 4.3. This imbalance in the World Heritage List according to continents and countries was present from the very beginning. It has become a subject of major concern within the World Heritage Commission and Centre, UNESCO and beyond. The Director of the World Heritage Centre, Francesco Bandarin, even went so far as to call the World Heritage List "a catastrophic success" (Henley, 2001, p. 1). As a reaction to this imbalance, in 1994 the World Heritage Committee started the Global Strategy for a Balanced, Representative and Credible World Heritage List. It intends to raise the share of non-European sites as well as the share of living cultures, especially "traditional

[7]However, the UNESCO also runs a List of the World's Documentary Heritage (Memory of the World), comprising archives, libraries, books and writings, musical scores, audio- and video-documents. To complete the World Heritage Program in 2001 the UNESCO started a List of Intangible Cultural Heritage, including languages, oral narrations or epics, music, dances, games, customs and other forms of art. Further, some countries, such as Saudi Arabia, refuse to nominate properties, such as Mecca and Medina, because they are reluctant to conform to a set of Western regulations (Pocock, 1997).

cultures" included in the List. Despite this explicit policy and intended strong action, "the immediate success of these efforts is questionable" (Strasser, 2002, p. 226). Section 4.3.2 provides empirical results for the failure of the Strategy.

Overextension

The number of sites on the UNESCO List has grown continuously over time. On average, about 30 properties have been added to the List each year. The growth rate has even been accelerated, from 26 sites per year between 1978-1994 up to 36 sites per year afterwards. In 2012, there are 38 new properties inscribed and the World Heritage List comprises almost 1000 sites. On the one hand, this is a small number if one takes into account the richness of culture and nature on our planet. On the other hand, it is an already large number considering that each site is a very special selection according to the ten criteria mentioned above. It is difficult to see how this process can be slowed, let alone stopped. The Convention does not set a numerical limit for the List (see Benhamou, 1996). Provided the selection is well made, the newest additions are necessarily somewhat less well suited than the first ones (the law of decreasing marginal utility); there are an increasing number of sites which could well be argued to fulfill the criteria.

The problem is intensified because de-listings are extremely rare. Only two sites have been de-listed since the implementation of the List. The case of countryside around Dresden is one example. The other one is Oman's Arabian Oryx Sanctuary, which was deleted after the government had reduced the sanctuary by 90% following the discovery of oil at the site. The Convention does not provide clear indications regarding the deletion of sites from the List; its task is to establish, keep up to date and publish the List (UNESCO, 2005). As a consequence, sites on the List are regarded as "once inscribed, forever inscribed" (Strasser, 2002, p. 219). Before a site can be de-listed it is inscribed on the *List of World Heritage in Danger*. The List was criticized as not reflecting the dangers with which World Heritage is faced, which is for example described in the List of 100 Most Endangered Sites by the World Monuments Fund.[8] Most countries are reluctant to have sites inscribed on the list of endangered heritage. However, being put on the list of endangered heritage can also induce positive effects, since it attracts special attention.

The fast growth of the World Heritage List imposes problems on the Committee to

[8]Available at http://www.wmf.org

monitor the state of conservation and management of the sites. Worse monitoring might decrease the protection of the global heritage in total.

The overextension takes a second form, namely an increasingly broad definition of what is our planet's heritage. At the beginning, the term heritage was understood to be a specific historical monument, such as Aachen Cathedral or the Chateau and Park of Versailles, or ensembles such as Venice and its Lagoon, or Stonehenge, Avebury and associated sites. Later natural sites were added, such as the Jungfrau-Aletsch region in the Swiss Alps or Lake Turkana National Parks in Kenya. Then the List of Immaterial Cultural Heritage comprising for instance the Carnival of Binche in Belgium and Nooruz holiday in Kyrgyzstan was added. This led to increasing demands by politicians to put other items on one of these Lists. In 2008, French president Sarkozy declared French cuisine to be the best in the world and promised to propose its inclusion in the List of Immaterial Cultural Heritage.[9] Similarly, some Austrians want to have "Austrian charm" inscribed on the Immaterial World Heritage List and even such controversial events as bullfighting are proposed.

Undesired Substitution Effects

When an object is included in the World Heritage List, several reactions may occur which are detrimental to global heritage taken as a whole. The two most important involve attention and financial resources.

A site not on the UNESCO List is, by definition, not quite first, but rather second rate. Attention is directed to the sites on the List. The notion that a site not on the List is "second rate" would be violently denied by the World Heritage Commission and other persons involved in the selection process. But it is clearly the case for the general public, politicians, government bureaucracy and potential donors. The tourist industry understands well that not being on the List is a considerable disadvantage for a site's advertising. It is indeed an argument brought forth to induce the Commission to include a site on its List.[10]

A second undesirable substitution effect takes place due to the attention generated on

[9]See *Neue Zürcher Zeitung* of 23 February 2008 "Französische Küche als Weltkulturerbe", online: http://www.nzz.ch/aktuell/panorama/sarkozy-verspricht-bauern-vorstoss-bei-der-unesco-1.676963

[10]To provide just one example: in a report on Heidelberg in the *Frankfurter Allgemeine Zeitung* (5 July 2007:R1) it is stated that "once more, Heidelberg was not given the title World Cultural Heritage" (translation by the authors), implying that this makes Heidelberg a second rate place.

the part of politicians, bureaucrats and firms. Funds from other sites are reallocated to a site on the List. An important prerequisite of the World Heritage Commission for putting a site on the List is that additional funds go into the preservation of the chosen sites. The loss of funds from the non-UNESCO sites may well damage the heritage overall more than the increase in funds of the listed sites, which find it much easier to attract money from private sponsors.[11] This effect materializes as long as the total government budget and the funds from private firms for heritage projects are not raised to the same extent as additional money flowing into the listed sites. Only a series of careful case studies can establish whether such undesirable substitution effects actually occur.

Attracting Destruction

Being on the World Heritage List makes an object interesting for different actors. In the case of not yet fully explored, excavated and secured heritage sites, tomb robbers may be given a hint of how important the site is. As a rule, the damage done is much higher than the objects robbed because the sites are destroyed and other objects mutilated (Gamboni, 2001). What is more important is that listed sites become a prominent target in war. As early as 1954, the *Hague Convention for the Protection of Cultural Property in the Event of Armed Conflicts* was drafted in response to the huge losses in cultural heritage suffered during World War II. The Blue Shield symbol was created to indicate cultural sites of special importance. While this may sometimes have preserved the object so designated, in many cases exactly the opposite happened (Wegener and Otter, 2008; Gamboni, 2001). Examples are the destruction of the ancient bridge in Mostar, the bombing of Dubrovnik, and the obliteration of the great Buddhas at Bamiyan. Terrorists who strongly depend on media attention seek highly visible and cherished targets, or "icons" (Frey and Rohner, 2007). The attribution of World Heritage status to a monument may well induce them to attack and destroy it.

The most important negative consequence of the increased popularity is the deterioration caused by the high numbers of visitors. It is widely argued that a conflict exists between heritage protection and tourism development (Yang et al., 2009). Deterioration by tourists is often identified as the largest threat to World Heritage sites (Batisse,

[11] In the Swiss canton Ticino, the Three Castles located in Bellinzona were well restored when they came on the List. In contrast, many of the Carolingian churches in the same canton urgently need funds for repairs.

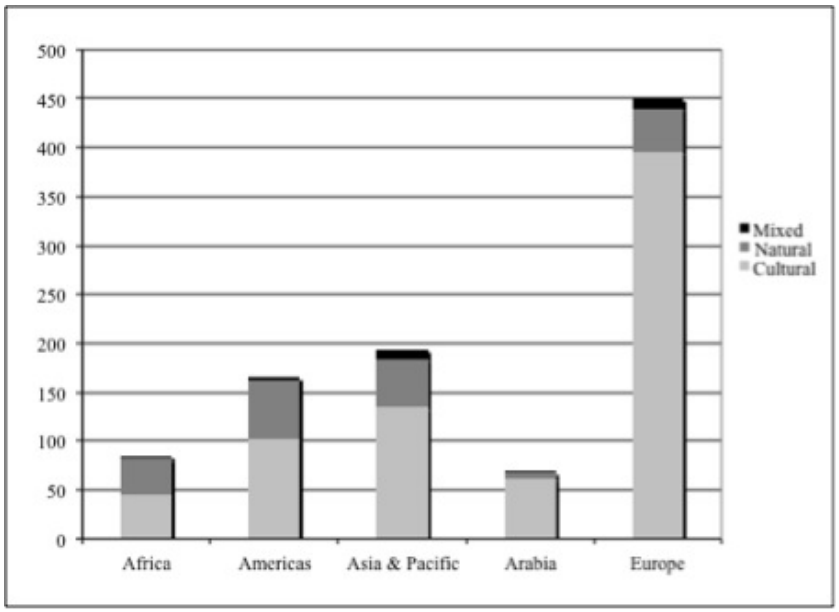
1992). This is especially the case if free entry is granted into World Heritage cities such as Venice. No entry fees to restrict access and generate revenue for preservation are levied even though they could be easily imposed. As a consequence, on an average day no less than 39,000 people visit and overcrowd this island and its severely restricted space (Frey and Steiner, 2012b). There are several other measures to restrict the damage resulting from tourism, such as showing replicas, closing the most endangered parts of the site or introducing circular routes instead of allowing visitors to roam around. However, Van der Aa (2005, p. 122) concludes that "Visitor management measures have not been introduced at most world heritage sites. Most sites have no other visitor management plan than plans to attract (more) visitors."

4.3 The Distribution of UNESCO Sites over Countries and Continents

4.3.1 Unequal Distribution of Sites

The questionable selection is reflected in the strikingly unequal distribution of sites among continents (following the UN definition of a continent). Europe has 46% of the sites. In contrast, sub-Saharan Africa has less than 9% of all sites, and the Arabian countries have 7%. The Americas and Asia-Pacific are better represented, with 17% and 21% respectively (see Figure 4.1). European predominance is larger for cultural sites (53%) than for natural sites (23%). Strasser (2002) ascribes the differences in the imbalances of cultural and natural sites to different evaluation approaches of the advisory boards, ICOMOS and IUCN. The method of evaluating cultural sites seems to be more inclusive, whereas the approach for natural sites is more restrictive. The higher imbalance of cultural sites can be attributed to a less restrictive evaluation range and therewith more possibilities for rent seeking. Yang et al. (2009) estimates the impact on the number of tourists to be larger for cultural sites, which might explain why they are more desired by political actors.

Figure 4.1: The World Heritage List According to Types of Heritage and Continents in 2012



Data source: http://whc.unesco.org/en/list (accessed on January 29, 2013).

The distribution of sites across countries is also highly skewed.[12] Some countries have a large number of World Heritage sites; whereas other countries have few, and a considerable number have none. Only 10 countries have a large number of 20 sites or more. On the other extreme, there are 38 countries with no site at all. Some of these countries have been a part of the Convention for a long time (e.g., Guyana since 1977 and Monaco since 1978). However, larger countries such as Jamaica (since 1983) or countries with an important heritage, such as Bhutan with its Djongs (since 2001) have also been omitted from the List (for more detailed information about the distribution of sites see Frey and Pamini, 2010). A Gini coefficient of 0.55 in 2012 reflects the highly unequal distribution between countries. A completely equal distribution, i.e. each country has

[12]21 heritage sites span two countries each, while one site spans ten countries. This and all further statistics, tables and figures in this chapter count sites as many times as the number of countries involved. We do not count the Old City of Jerusalem (ID 48), because it is associated with no country. Sites given to the Socialist Federal Republic of Yugoslavia are still counted under Serbia, although they now are listed under Croatia, Macedonia, Montenegro and Slovenia. Itchan Kala (ID 543) is counted under Russia, because in 1990 Uzbekistan was still part of it. We do not count the Bialowieza Forest (ID 33) for Belarus, because in 1979 neither Belarus nor USSR was in the WH Convention. We do not count the Historic Center of Rome (ID 91) to the Vatican City State, because in 1980 it was not yet member of the WH Convention. Since we are interested into the election process, we include the two delisted sites (Arabian Oryx Sanctuary in Oman, listed in 1994 and delisted in 2007 ID 654, as well as Dresden Elbe Valley in Germany, listed in 2004 and delisted in 2009 ID 1156).

the same number of sites (a Gini coefficient of 0), could be supported by the argument that every country has equal importance with respect to its contribution to the heritage of humankind. This point of view emphasizes that for an international organization such as the UN and its agency UNESCO, every country should be of equal worth with respect to its culture. This applies not only to culture in the broadest sense but also to nature: Each country has cultural and natural sites worth preserving. However, postulating an equal number of sites per country makes any attempt to compare the 'value' of the sites among countries futile. Clearly, this would be an extreme position because it does not take into account the size of a country as measured by population or geography.

If the distribution according to the size of a country is taken as a reference, Europe is still at the top with 19 sites per million square kilometers, while all other continents possess between four and five. A balanced distribution that relates to the country's size as measured by area in square kilometers assumes that the larger a country is, the more likely it is to find some site worth including on the List. This argument seems to be more convincing for natural sites. Most likely, a large country has more different landscapes than does a small one, some of which may fit the UNESCO criteria.

The distribution of sites per capita is also clearly headed by Europe with 52 sites per 100 million persons, followed by the Arabian countries, the Americas and sub-Saharan Africa with 23, 18, and 11 sites per 100 million population. Asia-Pacific has far fewer, 5 per 100 million persons. An equal distribution according to population per country rather than countries as such seems to be most appropriate with respect to cultural sites. Each person of the world may be taken to have the same capacity to produce cultural goods. These goods may be of extremely different types and forms and would certainly not correspond to what are sometimes called "high" cultures, such as those of classical Egypt, Greece or Rome (also see Frey and Pamini, 2010)

4.3.2 The UNESCO Global Strategy

In 1994, 22 years after the adoption of the Convention, UNESCO determined that the List lacked balance in the type of inscribed properties and in the geographical areas of the world represented. "Among the 410 properties, 304 were cultural sites and only 90 were natural and 16 mixed, while the vast majority is located in developed regions of the world, notably

in Europe".[13] As a reaction to this imbalance, the UNESCO World Heritage Committee started the Global Strategy for a Balanced, Representative and Credible World Heritage List (hereafter, Global Strategy), which intends to raise the share of non-European sites on the List. In the next section (4.3.3), we analyze in which respects there is an unbalanced representation of continents and countries on the World Heritage List. We further address the question of whether the international organization UNESCO is effective in achieving the goal of its own formally ratified resolution. In particular, we test whether the Global Strategy has reached its goal of reducing the inequality in the distribution of sites.

Three objective criteria for a more balanced List are available: (1) the distribution according to cultural and natural sites, (2) the distribution according to a country's development, and (3) the distribution according to continents. The Operational Guidelines stipulate in several propositions that a balance in the number of cultural and natural sites should be achieved (UNESCO, 2005, paras. 6, 15 and 58). Concerning the distribution of sites, we focus on successful inscriptions on the List instead of applications. If more applications are made by European countries (whether they have more potential sites or better resources to apply), more European countries will be represented than countries from other continents. However, state parties often withdraw a nomination if there is a chance that the decision might be negative, leading to a distorted selection. Furthermore, data on applications available on the UNESCO homepage is incomplete. To avoid such biases, we do not follow this approach but analyze only successful applications.

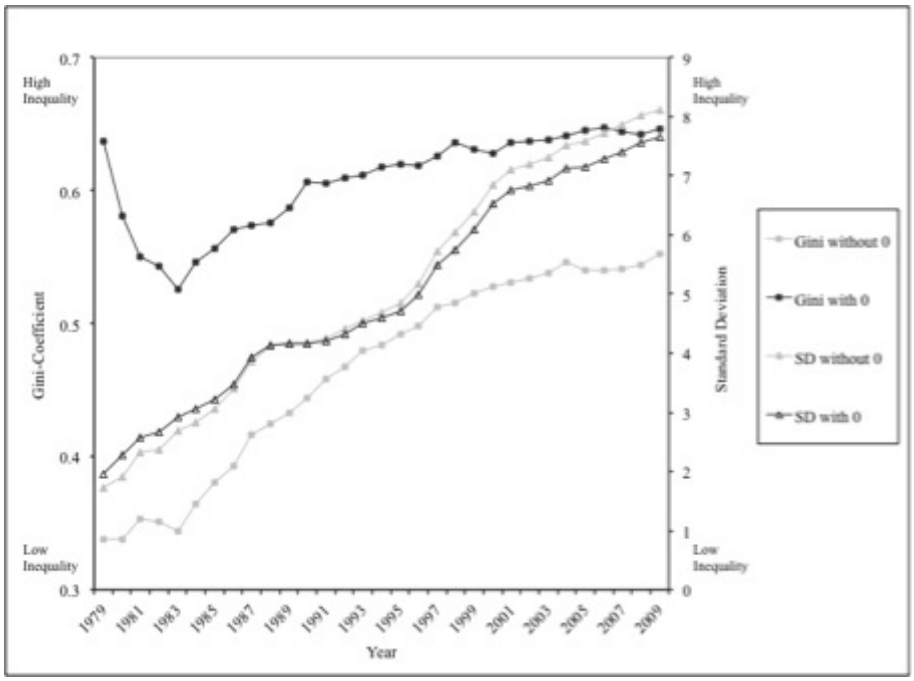
UNESCO further observed an imbalance with respect to the character of sites. A global study carried out by ICOMOS from 1987 to 1993 suggested that, in Europe, historic towns, religious monuments associated with Christianity, historical periods, and "elitist" (in relation to vernacular) architecture were all overrepresented on the World Heritage List; whereas all living cultures – especially traditional cultures – were underrepresented.

To support the Global Strategy in achieving greater balance, UNESCO intended to encourage countries to become state parties to the Convention, to prepare tentative lists, and to advance the nominations of properties from categories and regions currently not well represented on the List.

[13]See the homepage of the World Heritage Convention: http://whc.unesco.org/en/globalstrategy accessed on 26.1.2012

4.3.3 Development of Imbalance over Time

Figure 4.2: Dispersion of World Heritage Sites According to Countries 1979–2009



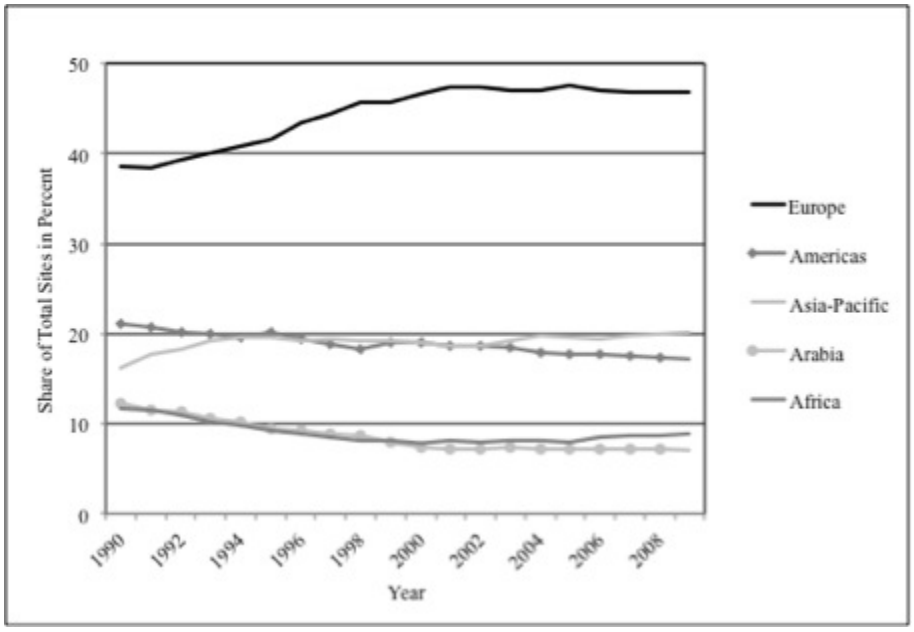
Data source: http://whc.unesco.org/en/list (accessed on 30.6.2010).

A first indicator of the imbalance is the Gini coefficient as a measure of statistical dispersion. As seen in Figure 4.2, the Gini coefficient of the distribution of total sites across countries has risen almost monotonously over time from 0.34 in 1979 to 0.55 in 2009 (see the curve "Gini without 0"). The distribution of sites is increasingly concentrated in countries that already have many sites. The calculation does not include countries with no sites to avoid biases by countries that become members of the Convention and start without sites. Another way to reduce the bias produced by new member countries is to include countries with no sites, but only if they have been members of the Convention for at least two years (see curve "Gini with 0" in Figure 4.2). The minimum amount of time the Committee needs to decide on a nomination is 12 months (Leask and Fyall, 2001). When including the zero observations, the Gini coefficient is higher; it increases from 0.52 in 1984 to 0.65 in 2009. However, it increases less strongly than the Gini coefficient that does not include countries without sites. So by also including member countries with no sites on the List, the inequality in the distribution of sites among countries is higher at

all times. However, its increase is less pronounced.[14]

Another measure of dispersion is the standard deviation of the number of sites per country. The standard deviation has risen from around 2.0 to 7.6 with the mean increasing from 1.2 to 4.9 sites per country in the same period. Here the different calculation methods have little effect on the results (see "SD without 0" and "SD with 0" in Figure 4.2). Both dispersion measures suggest that the new Global Strategy clearly has not helped to reduce the inequality of the distribution among countries, i.e., relatively fewer countries obtain a larger share of sites over time.

Figure 4.3: Share of Total Sites per Continent 1990–2009

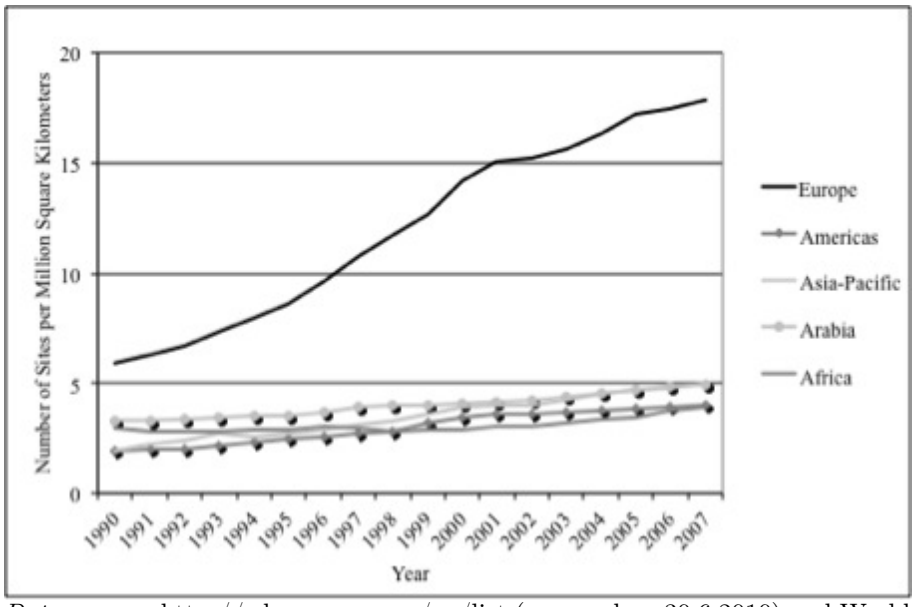


Data source: http://whc.unesco.org/en/list (accessed on 30.6.2010).

Since its inception, the number of sites on the List has continuously grown. On average, about 30 properties have been added to the List each year. The growth rate has even accelerated, from 26 sites per year in 1978–1994 to 36 sites per year thereafter. As shown in Figure 4.1, today, the European countries hold almost half of all sites. This European dominance had been one of the reasons for launching the Global Strategy. Surprisingly, the number of new European sites per year has exhibited a strong increase after 1990, which lasted until the year 2000, as can be seen in Figure 4.3.

[14]The decrease in the beginning can be explained with the many countries that had no sites when the Convention was launched but soon obtained at least some sites.

Figure 4.4: Number of Sites According to Area and Continent 1990–2007



Data source: http://whc.unesco.org/en/list (accessed on 30.6.2010) and World Development Indicators.

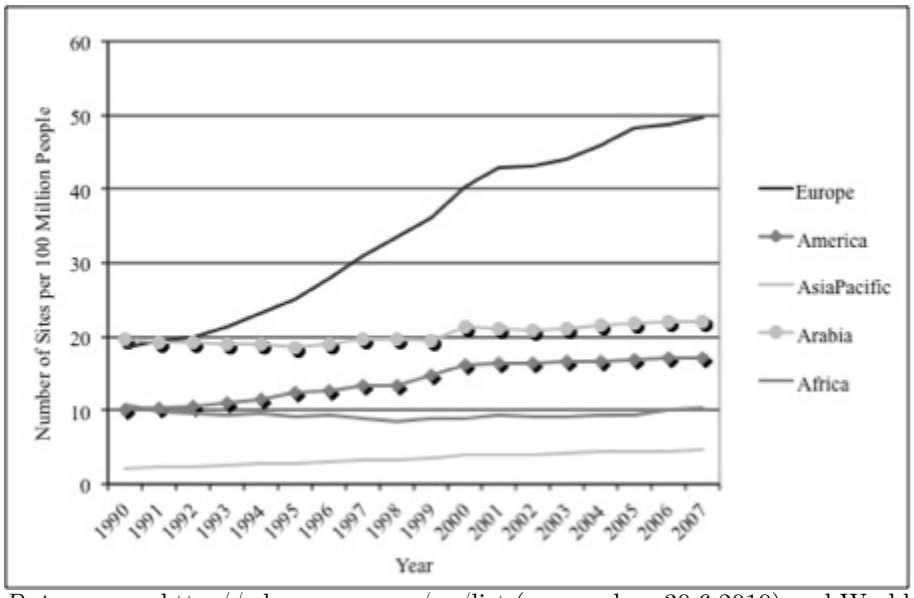
Recently, the European countries have been granted even more new sites in almost every year than any other continent. Consequently, the share of total sites belonging to Europe has risen even after the introduction of the Global Strategy (see Figure 4.3).

As argued above, the relevant units to relativize the number of sites on the List could be the size of the population or area. Figure 4.4 shows the number of total sites per one million square kilometers for each continent. Europe has by far the most sites per area, and Europe's number of sites compared to all other continents is increasing over time. Here, we show the development after 1990, when the last major change of the area occurred after the U.S.S.R. joined the Convention in 1988. It is also the most relevant time range for our analyses. There are no indications that the introduction of the Global Strategy in 1994 had any effect.

The European countries are also heading the distribution of total sites per person. As shown in Figure 4.5, in 2007, the European continent had about 50 sites per 100 million people, whereas all other continents ranged between 5 and 23 sites per 100 million people.

The distribution of sites according to cultural and natural sites is very unequal. Today 77% of the sites are cultural and only 20% are natural. This imbalance clearly favors the European countries, which are more successful in obtaining cultural sites than are

Figure 4.5: Number of Sites According to Population and Continent 1990–2007



Data source: http://whc.unesco.org/en/list (accessed on 30.6.2010) and World Development Indicators.

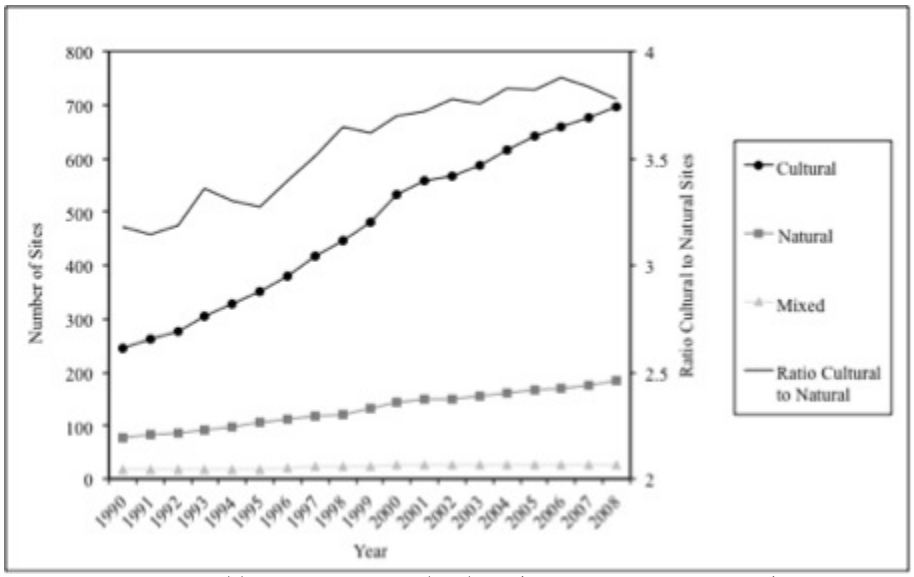
countries from other continents. The Operational Guidelines stipulate that an equal distribution of cultural and natural sites should be achieved (UNESCO, 2005). In 1980, the United States delegate to the Committee suggested establishing a working group on the balance of cultural and natural sites (Strasser, 2002). One goal of the Global Strategy is to approximate the share of these two types of sites. Figure 4.6 depicts the development of the number of cultural, natural, and mixed sites. The number of cultural sites has increased much faster than the number of natural sites. In relative terms, the ratio of cultural to natural sites tends to increase monotonously over time. This reflects an increasing share of cultural sites – even after the introduction of the Global Strategy.

4.3.4 Simultaneous Analysis

The next step is to investigate the impact of the Global Strategy on the distribution of sites by simultaneously controlling for different factors. Here, we focus on two factors explicitly mentioned in the Global Strategy: the European predominance and the impact of the development level of a country on the number of sites.

In a first step, we perform cross-section regressions to estimate the impact of the continents and GDP per capita (US$1,000 per capita) as a measure of economic develop-

Figure 4.6: Development of Number of Cultural, Natural and Mixed Sites 1990–2009



Data source: http://whc.unesco.org/en/list (accessed on 30.6.2010) and World Development Indicators.

ment. The dependent variable is the total number of sites (cultural, natural and mixed) a country had before the Global Strategy (1993) and 14 years later (2007).[15] Because the number of sites is a count variable that is over-dispersed, we use negative binomial regressions to estimate the partial correlations.[16] We control for the factors introduced above: size of country (one million square kilometers) as a proxy for natural potential, and population (100 million persons) as a proxy for cultural production potential. As a technical control variable, we add the number of years that a country has been part of the Convention, increasing its potential to have sites inscribed on the List.[17] Table 4.1 shows the coefficients estimated for the years 1993 and 2007 to see if the marginal effects have changed between 1993 and 2007.

Although the coefficients of area and population remain similar, the coefficient for years in the Convention decreases, reflecting the increasing number of countries in the Convention. The more years a country has been a member of the Convention, the more

[15]This is the latest year for which we have all control variables used in the later section. To keep consistency we also only investigate the time period until 2007 in this section.

[16]For count data, one can also estimate Poisson regression models. In our case, these models lead to qualitatively and quantitatively very similar results. In Stata, count data models can be compared with the "countfit" command. A comparison of the mean differences, the sum of the Pearson statistic, and the Akaike information criterion and Bayesian information criterion statistics suggests applying negative binomial regressions to our data. Thus, we only show the results of these estimations.

[17]A detailed description of the variables used can be found in Table A.6 in the Appendix.

Table 4.1: Determinants of World Heritage List Inclusion Before and After the Introduction of the Global Strategy

	(1)	(2)
	Sites per country in 1993	Sites per country in 2007
Size of country	0.0803**	0.0887**
	(2.083)	(2.511)
Population	0.165**	0.184***
	(2.275)	(3.041)
# Years in Convention	0.130***	0.0839***
	(7.150)	(8.147)
GDP per capita	0.00858	0.0212***
	(0.676)	(2.738)
Africa	-1.284***	-1.283***
	(-4.272)	(-5.479)
America	-0.933***	-0.965***
	(-3.477)	(-4.416)
Asia-Pacific	-0.565*	-0.805***
	(-1.939)	(-3.744)
Arabia	-0.999***	-1.084***
	(-2.911)	(-3.591)
Europe	Reference continent	
Constant	-0.0930	-0.145
	(-0.357)	(-0.550)
Observations	127	166

Notes: The dependent is the total number of sites of a country in 1993 (column 1) and 2007 (column 2)). All coefficients are estimated using negative binomial cross-section regressions. The z-values are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations and World Bank Development Indicators. For a more detailed variable description see Table A.6 of the appendix

sites it obtains. This relationship was less strong in 2007 than in 1993 because of new member countries with fewer years in the Convention obtaining sites.

With Europe as a reference category, the coefficients of most continent dummies do not change in a statistically significant way between 1993 and 2007. Even when controlling for the size of a country and years in the Convention, non-European continents did not catch up with Europe in terms of the number of sites. The only continent that shows a significant change is Asia-Pacific, albeit in the opposite direction: Countries on this continent have obtained even fewer sites compared to Europe than before the Global Strategy was started. The size of the coefficients can be interpreted by computing the exponent of the estimated coefficient to obtain what is termed the incidence rate ratio (IRR), which indicates the factor change in the expected count of sites for a unit increase in the independent variable. For instance, in column 2 (Table 4.1), the African countries have an $IRR = e^{-1.283} = 0.277$. This means that being located in Africa is accompanied with a relative decrease of the expected number of sites by $IRR - 1 = -72.3\%$ compared to the European countries.

Moreover, the Global Strategy was intended to increase the proportion of sites in less developed regions. When GDP per capita is used as a measure for economic development, the estimated coefficients reveal that the Global Strategy has also failed with respect to this objective. Although the coefficient of GDP per capita is not statistically significantly correlated with the number of sites for data from 1993, i.e. before the introduction of the Global Strategy, for data relating to 2007 the correlation is positive and significant. More developed countries obtained more sites after the introduction of the Global Strategy. An increase in GDP per capita by US$1,000 leads to an increase in the expected number of sites by 2.14%.

In a second step, we test for a structural break by using the panel structure of the data from 1978 to 2007 and introducing a Global Strategy dummy taking the value 1 after 1993. Interaction effects of the Global Strategy dummy and the determinants reveal whether the slope of these determinants changed after 1993, which would be an indicator for the success of the Global Strategy. Again, we use the total number of a country's sites up to year t as the dependent variable. The panel data structure allows us to apply random effects.[18] In the basic setting without interaction effects, the results from the

[18]The total number of sites in year t is correlated with the number of sites in year t-1. However, the Random Effects model permits for this kind of serial correlation in the error term.

cross-section estimations hold (see Table 4.2, column 1).

In Table 4.2, column 2, we introduce interaction effects. The Global Strategy dummy is positive and significant. Sites are almost never delisted, so the stock increases continuously after 1993. The interaction coefficient of the Global Strategy and years in the Convention is negative and statistically significant, which indicates that the relationship between years in the Convention and total sites became less positive after the Global Strategy was introduced than before. This reflects the increasing number of member countries. Because the growth of the List is limited, more countries induce a slower increase of the stock per country. The interaction term of Global Strategy and GDP per capita is positive and strongly significant. After the Global Strategy was introduced, the sites' distribution became increasingly biased toward the more developed countries. The interaction effects with the continent dummies of Africa, the Americas, and the Arabian countries are significant and negative. Hence, the sites' distribution became increasingly biased toward the European countries after the Global Strategy was introduced.

A somewhat different approach is to use the new sites that a country succeeds in inscribing per year as a dependent variable. These estimations of the flow of sites confirm our previous results (see Table 4.2, column 3). The only difference is the negative coefficient of years in the Convention. Countries that have been members for a longer time obtain fewer sites *per year*. However, in this specification, the only significant interaction-term coefficient is that between the Global Strategy and years in the Convention (see Table 4.2, column 4). This coefficient is positive and significant, indicating that after the Global Strategy was introduced, the countries with longer tenure obtained *relatively* more sites in a given year than did those with shorter tenure. This is contradictory to UNESCO's aim to support countries that have recently joined the Convention.

Overall, the results of this section indicate that the Global Strategy did not help to increase the balance and representativeness of the List with respect to continents and development. If anything, the distribution of sites has become even more biased. Of course, an unequal distribution of sites does not necessarily mean that the selection is incorrect. Nevertheless, a strongly unequal selection suggests that inappropriate aspects may play a role, such as political or bureaucratic rent-seeking among the member countries. These aspects are unrelated to the value of global heritage. In the next section, we present empirical results of the factors determining the number of sites on the List by country.

Table 4.2: Testing for a Structural Break in 1994 – Panel Estimations of the Determinants of Accumulated Sites and Newly Added Sites

	(1) Sites up to year t	(2) Sites up to year t	(3) New sites in year t	(4) New sites in year t
Size of country	0.207***	0.230***	0.125***	0.141***
	(2.787)	(2.858)	(4.102)	(4.073)
Population	0.0805**	0.0622	0.149***	0.120**
	(2.572)	(1.108)	(3.386)	(1.982)
# Years in Convention	0.0588***	0.121***	-0.0157***	-0.0377***
	(33.92)	(29.12)	(-2.769)	(-2.625)
GDP per capita	0.0129**	-0.00971	0.0231***	0.0197
	(2.364)	(-1.057)	(3.122)	(1.470)
Africa	-1.374***	-1.312***	-1.118***	-0.891***
	(-4.878)	(-4.280)	(-5.318)	(-2.879)
America	-1.047***	-1.081***	-0.724***	-0.498**
	(-3.425)	(-3.299)	(-3.788)	(-1.990)
Asia-Pacific	-0.946***	-0.967***	-0.891***	-0.642**
	(-3.264)	(-3.139)	(-4.531)	(-2.171)
Arabia	-0.959***	-0.981**	-0.989***	-0.675**
	(-2.668)	(-2.558)	(-3.985)	(-1.982)
Europe		Reference continent		
Strategy		0.924***		-0.00749
		(12.50)		(-0.0312)
Strat*Area		0.00211		-0.0266
		(0.249)		(-1.064)
Strat*Pop		0.00622		0.0364
		(0.428)		(0.819)
Strat*Tenure		-0.0757***		0.0278*
		(-18.63)		(1.759)

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Strat*Gdppc		0.00956***		0.00302
		(2.689)		(0.252)
Strat*Africa		-0.350***		-0.378
		(-4.261)		(-1.118)
Strat*America		-0.134**		-0.409
		(-2.005)		(-1.641)
Strat*Asia		-0.0968		-0.371
		(-1.237)		(-1.230)
Strat*Arabia		-0.164*		-0.545
		(-1.948)		(-1.375)
Constant	17.01	16.91	-0.246	-0.228
	(0.145)	(0.139)	(-1.266)	(-0.883)
Observations	3,458	3,458	3,458	3,458

Notes: The dependent in columns 4 & 5 is: Accumulated total number of sites of per country up to year t. The dependent variable in columns 6 & 7 is: Total number of new sites per Country in year t. The included years are 1978–2007. All coefficients are estimated using negative binomial cross-section regressions with random effects estimates. The z-values are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations and World Bank Development Indicators.

4.4 Determinants of the World Heritage List

4.4.1 Cultural and Natural Determinants

In a first step, we investigate factors explaining why some countries deserve more sites on the List than others do. The potential of a country to obtain World Heritage sites can also be regarded as the supply side of heritage. The influence of the determinants can be estimated by cross-section regressions, because these historical variables do not vary in the studied period. Cultural and natural sites differ in their characteristics; therefore, different UNESCO criteria are applied. However, rent-seeking can be expected to have the same influence with respect to Cultural and natural sites if it provides the same prestige and the criteria allow the same extent of manipulation. In this respect, the distinction between natural and cultural sites is somewhat artificial (Pressouyre, 1996). To achieve consistency with the following estimations of the political and economic determinants, all regressions use the total number of sites in 2007 as a dependent variable (since most of the independent variables in the following regressions are only available up to 2007). In the

case that there are relevant differences in the determinants between cultural and natural sites, this will be indicated. Table 4.3 presents the estimated coefficients of a negative binomial regression in order to deal with the over-dispersion of the dependent variable, that is, a variance greater than the expected value, which the Poisson model is not able to take into account.

As a control variable, we use the number of years a country has belonged to the World Heritage Convention, because a site can only be listed if the country in which it is located is a member of the Convention. As expected, the coefficient is positive in all specifications. A country that has belonged to the Convention for a longer period has more sites on the List. In most regressions, this coefficient is highly significant. The coefficients vary around 0.06 (Table 4.3, column 2). The size of the coefficients can be interpreted by computing the exponent of the estimated coefficient to obtain the incidence rate ratio (IRR), which indicates the factor change in the expected count of sites for a unit increase in the independent variable. In column 2 of Table 4.3, the coefficient of years in the Convention has, for instance, an $IRR = e^{0.0666} = 1.0689$, which means that an increase in Convention membership by one year (i.e., one unit in our scale) leads to a relative increase of the expected number of cultural sites of $IRR\check{}1 = 6.89\%$.

With regard to the size of a country, one expects that the larger a country is, the more likely it is to find sites worthy of inclusion on the List. This argument seems to be more convincing for natural than for cultural sites. The size of a country is a proxy for the potential to obtain natural sites: A large country is expected to have different types of landscapes that more appropriately fit the UNESCO criteria. The estimations of the impact of country size (area in million square kilometers) support this hypothesis. The coefficient is always positive and significant. For example, the coefficient of 0.148 in column 2 of Table 4.3 indicates that an increase in a country's size of one million square kilometers leads to a relative increase of the expected total number of sites by 15.9%. When testing the impact of this variable separately on the number of cultural and natural sites, the coefficient for natural sites is always larger than that for cultural sites, thus supporting the use of a country's size as a proxy for natural potential.

Finding an adequate proxy for cultural potential is more demanding. When compared to Europe, all other continents have significantly fewer sites, even when controlling for years in the Convention and size of the country. This is particularly the case for cultural

Table 4.3: Historical Determinants of the Total Number of Sites in the World Heritage List 2007 per Country

	(1)	(2)	(3)	(4)	(5)	(6)
# Years in Convention	0.0885***	0.0666***	0.0315*	0.0384**	0.0289*	0.0442***
	(8.838)	(6.739)	(1.728)	(2.418)	(1.874)	(3.055)
Size of country	0.169***	0.148***	0.0766***	0.0954***	0.0313	0.0527
	(4.250)	(3.895)	(2.590)	(3.033)	(1.051)	(1.515)
Africa	-1.517***					
	(-7.191)					
America	-1.204***					
	(-5.708)					
Asia-Pacific	-0.725***					
	(-3.588)					
Arabia	-1.492***					
	(-5.639)					
Europe	Ref. cont.					
# Years of high		0.000416***				
civilization		(6.414)				
GDP per capita in year			0.00216***			
1500			(2.903)			
GDP per capita in year				0.00125***		
1820				(3.679)		
Population in year 1500					1.27e-05**	
					(2.188)	
Population in year 1820						6.25e-06**
						(2.19)
Constant	0.212	-0.506**	0.511	0.351	1.647***	0.907***
	(0.917)	(-2.351)	(0.728)	(0.733)	(4.252)	(2.582)
Observations	182	182	32	50	50	87

Notes: The dependent is the total number of sites of a country in 2007. All coefficients are estimated using negative binomial regressions. All regressions refer only to the countries of the World Heritage Convention in 2007. The z-values are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations, World Bank Development Indicators, Debenham (1984), O'Brien (2007), Maddison (2007).

sites. For natural sites, the result is somewhat different. When compared to Europe, the Arabian countries have significantly fewer and the Asia-Pacific countries significantly more natural sites. Although the continental dummies can account for cultural and historical differences to some extent, variables on a country level are more precise. We construct a variable including the great cultures of the world to account for cultural potential as historical sources we used (as historical sources we used Debenham, 1984; O'Brien, 2007). The variable years of high civilization reflects the number of years a country has been part of one of the 16 most important historical cultures.[19] One can expect that the more years a country has experienced such high civilization, the more cultural sites it contains. The regression results are consistent with this hypothesis: The coefficient indicating the effect of years of civilization on the number of sites on the UNESCO List is positive and highly significant. The coefficient of 0.000416 in column 2 of Table 4.3 indicates that an increase in the period of high civilization by 100 years raises the expected number of sites by 4.17%

To further analyze the impact of the historical development of a country on the number of sites on the List, we use the historical GDP per capita and population data developed by Maddison (2007). The period covered in the data ranges from year 1 A.D. to 2008 A.D. (years 1, 1000, 1500, 1600, 1700, 1820, and yearly thereafter). However, in the early years, there are many missing values. We selected two points in time (1500 and 1820) with comparatively few missing values but with a substantial amount of time in-between to cover different periods. These points in time seemed to be especially appropriate for cultural sites since the majority of cultural sites stem from the period between the tenth and the eighteenth centuries (Van der Aa, 2005). We use historical GDP per capita to investigate the impact of the development of a certain country at a given point in time. Despite many missing values, the estimated coefficients for GDP per capita on the total number of sites are positive and statistically significant (Table 4.3, columns 3 and 4).

Considering the role of the size of population, we test the hypothesis whether historical population size has a positive impact on the number of sites. This implicitly assumes that each person of the world has the same capacity to create cultural goods. The coefficients of the historical population size are consistent with this expectation. The larger the historical population was in 1500 and 1820,the higher the number of sites in a country

[19]These are Mesopotamian, Arabian, Phoenician, Persian, Egyptian, Ottoman, Jewish, Greek, Occident, Aegean, Roman, Byzantine, Indian, Chinese, Mongolian, and Japanese.

(Table 4.3, columns 5 and 6). In the following estimations, the number of years in the Convention is used as a technical control variable and the size of area as a control for natural potential. As the historical data exhibit many missing values, we use the number of years of high civilization as a control for the cultural potential of a country.

4.4.2 Political and Economic Determinants

Many actors desire to have sites included on the UNESCO List because it brings prominence and monetary revenue, especially from increased tourism. As a consequence, the process of inscribing a site on the List is subject to rent seeking and has been highly politicized. The selection is subject to political pressure and is not solely determined by the 10 criteria deemed to be "objective" according to the Convention. Some countries are more active than others in securing the inclusion of sites on the List (Van der Aa, 2005). Several factors determine the rent-seeking process within a country and at an international level (e.g., within international organizations, such as UNESCO). Possible rent-seeking factors within a country are the size of the tourist sector, the distribution of information via media, economic development, bureaucracy, and federalism. Determinants influencing the nomination at the international level are the power of a country as expressed by GDP, the size of the population, and influence in international organizations. The separation between these two dimensions is not always clear-cut. We therefore order the variables as economic (GDP, GDP per capita, tourist sector) and political (size of population, media, bureaucracy, federalism, and membership on the UN Security Council) determinants. Another factor mentioned above is membership of the World Heritage Committee.

The contribution most noteworthy within the context of our work is the paper by Bertacchini and Saccone (2012). They find a clear positive and statistically significant correlation of membership of the Committee and the number of sites. However, we do not include this variable because of the endogeneity problem arising. Countries receive more sites when they are part of the Committee. This is not only because of the political power to push their sites through the nomination process, but also because these countries have prepared the applications years before and anticipate membership of the Committee. Furthermore, as discussed above, state parties often withdraw their nomination if there is a chance that the decision might be negative, leading to a distorted selection. To avoid such biases, we do not follow this approach but analyze only successful applications. Another

difference is that Bertacchini and Saccone (2012) focus on the behavior of states within the World Heritage system. We intend to broaden this intra-organizational perspective by including political and economic factors within member countries.

Assuming that the same prestige is attached to cultural and natural sites, rent-seeking can be expected to have the same influence on both types of sites. The following regressions therefore used the total number of sites in 2007 as a dependent variable. We do not include later years, as many of the independent variables are only available up to 2007, or contain too many missing variables in the most recent years. First, we test the impact of economic factors, always controlling for years in the Convention, area, and years of civilization. Various economic determinants are introduced in sequence and then simultaneously tested (see Table 4.2, columns 1–4).

Table 4.4: Economic Determinants of the Number of Total Sites in the World Heritage List 2007 per Country

	(1)	(2)	(3)	(4)
GDP	0.000377***			0.000129
	(2.825)			(1.155)
GDP per capita		0.0321***		0.0203**
		(4.361)		(2.379)
Tourists expend/exports			-0.0267***	-0.0216***
			(-4.073)	(-3.411)
# Years in Convention	0.0619***	0.0648***	0.0560***	0.0528***
	(6.390)	(6.820)	(5.268)	(5.218)
Size of country	0.113***	0.144***	0.120***	0.106***
	(3.295)	(4.296)	(3.399)	(3.249)
# Years of high civilization	0.000350***	0.000316***	0.000366***	0.000294***
	(5.467)	(5.293)	(5.935)	(5.054)
Constant	-0.416*	-0.622***	0.204	0.0851
	(-1.953)	(-2.881)	(0.814)	(0.340)
Observations	169	169	146	142

Notes: The dependent is the total number of sites of a country in 2007. All coefficients estimated with negative binomial regressions. The z-values are in parentheses. The figures are for 2007 and refer only to the countries of the World Heritage Convention in 2007. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations, World Bank Development Indicators, Debenham (1984), O'Brien (2007)

Total GDP is positively and significantly correlated with the number of total sites. Economically powerful countries, which tend to have a higher weight at UNESCO and other international organizations, are able to put more sites on the List. GDP per capita is also positively and significantly related to the number of sites. More developed countries may have a larger number of sites for historical reasons and they may be better able to lobby for inclusion on the List. This involves being able to prepare the extensive documentation necessary for a successful application (Strasser, 2002). It may be argued that more developed countries are better able to maintain their sites. The importance of the tourist sector, as measured by the expenditures of tourists as a share of exports, has a statistically significant negative effect on the number of sites. Politicians and bureaucrats in a country with low tourist income have higher incentives to lobby for more sites on the List. In contrast, countries with an already well-developed tourist sector are less dependent on the World Heritage List to promote tourism. Testing all relevant economic factors simultaneously (Table 4.4, column 4), the results hold: GDP per capita is positive and tourist expenditures are negatively related in a statistically significant way to the number of sites on the List. The coefficient of GDP, however, is no longer significant.

In a second step, we test political determinants. The first measure refers to a country's power as measured by today's population size, which is shown in Table 4.5 (column 1). When using control variables, the population size shows no impact on the number of sites. The size of a country's area turns out to be a more important determinant of a site's presence on the UNESCO List.

The media play an important role in the process of having a site inscribed on the List. It is expected that countries with a higher media density will have a larger number of sites on the List. When more people are informed about (possible) sites on the List, political actors have a higher incentive to engage in order to profit from the popularity of the List. Possible media channels through which people are informed include newspapers, radio, TV, and the Internet. These variables are highly correlated with each other, but the number of Internet users is the most thoroughly documented. The number of Internet users is positively related to the number of sites on the List in a statistically significant way. The more people have access to the news, the higher the incentive for politicians to lobby for putting national sites on the List (see section 5.4 for a discussion of the attention effect of the List).

Table 4.5: Political Determinants of the Number of Total Sites in the World Heritage List 2007 per Country

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Population	0.0657					0.0390	0.0636
	(0.821)					(0.813)	(1.021)
Internet user		0.0150***				0.0120***	0.00806**
		(4.917)				(3.701)	(2.155)
Gvt spending/GDP			0.0319**			-0.0103	0.00348
			(2.033)			(-0.658)	(0.188)
Federalism-Index				1.460***			0.961***
				(4.678)			(3.348)
# Years UNSC_perm					0.0652***	0.0495***	0.0426***
					(4.378)	(3.376)	(3.077)
# Years UNSC_rotating					0.252***	0.188***	0.130***
					(6.315)	(4.660)	(2.803)
# Years in Convention	0.0678***	0.0652***	0.0695***	0.0584***	0.0348***	0.0354***	0.0386***
	(6.883)	(7.038)	(6.576)	(4.505)	(3.738)	(3.515)	(2.861)
Size of country	0.129***	0.145***	0.137***	0.0464	0.0730**	0.0685**	-0.0326
	(3.192)	(4.315)	(3.836)	(1.020)	(2.226)	(2.253)	(-0.661)

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# Years of high civilization	0.000410***	0.000309***	0.000344***	0.000359***	0.000317***	0.000246***	0.000220***
	(6.006)	(5.356)	(5.221)	(4.529)	(6.092)	(4.686)	(3.084)
Constant	-0.527**	-0.755***	-0.902**	-0.797**	-0.217	-0.140	-0.584
	(-2.454)	(-3.455)	(-2.538)	(-2.298)	(-1.155)	(-0.435)	(-1.327)
Observations	180	175	153	78	182	150	71

Notes: The dependent is the total number of sites of a country in 2007. All coefficients estimated with negative binomial regressions. The z-values are in parentheses. The figures are for 2007 and refer only to the countries of the World Heritage Convention in 2007. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations, World Bank Development Indicators, Database of Political Institutions, Debenham (1984) and O'Brien (2007)

The general importance of government and its bureaucracy in a country can be captured by the share of government spending in GDP. The higher the public expenditure share, the stronger is the influence of politicians and the size of bureaucracy in a country. A higher share is expected to be correlated with a higher degree of rent seeking, but it also means better opportunities to prepare the applications for the List. The estimated coefficient emerges as positive and statistically significant (Table 4.5, column 3). Countries with higher degrees of federalism are expected to have a higher number of sites on the List. In more federal countries, a larger number of politicians want to profit from the popularity of the List and put through regional interests. Although member governments must propose sites to be included on the List, mayors, district governments, or heritage experts can make proposals for inclusion on the Tentative List. A measure of federalism is published by the Database of Political Institutions (Becker and Murphy, 2001). By using this index, more than 50% of the observations are lost. The estimated coefficient is positive and statistically significant, which means that a more decentralized country has more sites on the List.

The influence of membership of international organizations, especially those belonging to the UN, is expected to be reflected in a larger number of sites on the UNESCO List. Dreher et al. (2009) show that being a member of the UN Security Council is related to receiving favorable treatment from the World Bank and IMF. To test the effect of membership of other important organizations, we count the years that a country has been a permanent or nonpermanent member of the UN Security Council since its accession to the World Heritage Convention. Interestingly, countries that have been members of the Security Council for a longer period have a significantly higher probability of having a larger number of sites on the List.

Controlling for the political determinants simultaneously (see Table 4.5, columns 6 and 7), the main results are unaffected: Media (as measured by Internet users), federalism, and UN Security Council membership (permanent and rotating) are all positively and significantly correlated with the number of sites. However, the size of government spending is statistically insignificant.

As a last step, the influence of economic and political determinants on inclusion on the UNESCO List are estimated simultaneously (see Table 4.6, columns 1 and 2). The main results hold (including statistical significance): Relative tourist expenditures are

Table 4.6: Economic and Political Determinants of the Number of Total Sites in the World Heritage List 2007 per Country

	(1)	(2)
GDP	-2.83e-05	1.05e-05
	(-0.373)	(0.173)
GDP per capita	-0.00497	-0.0233*
	(-0.394)	(-1.693)
Tourists expend/exports	-0.0140**	-0.00902
	(-2.267)	(-1.114)
Internet user	0.0119**	0.0151**
	(2.164)	(2.454)
Gvt spending/GDP	-0.0121	-0.0109
	(-0.705)	(-0.550)
# Years UNSC_perm	0.0550***	0.0519***
	(3.390)	(3.618)
# Years UNSC_rotating	0.184***	0.128***
	(4.289)	(2.751)
Federalism		1.221***
		(4.052)
# Years in Convention	0.0274**	0.0307**
	(2.532)	(2.401)
Size of country	0.0643**	-0.0134
	(2.194)	(-0.354)
# Years of high civilization	0.000246***	0.000237***
	(5.126)	(3.894)
Constant	0.370	-0.201
	(1.091)	(-0.457)
Observations	127	61

Notes: The dependent is the total number of sites of a country in 2007. All coefficients estimated with negative binomial regressions. The z-values are in parentheses. The figures are for 2007 and refer only to the countries of the World Heritage Convention in 2007. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations, World Bank Development Indicators, Database of Political Institutions, Debenham (1984) and O'Brien (2007)

negatively correlated with the number of sites; the coefficients of the number of Internet users (as a proxy for the influence of media in general), membership on the UN Security Council, and federalism are positively related. Interestingly, when membership of the UN Security Council is included among the determinants, the coefficient of GDP per capita of a country is much smaller and becomes insignificant. This suggests that the power of a country on the World Heritage Committee is exerted more by its influence on international bodies than by its level of economic development.

Cross-section regressions can of course not rule out reverse causality. However, for most determinants, reverse causality seems to be highly implausible. The number of sites is unlikely to influence country size, years of high civilization, membership on the UN Security Council, or the degree of federalism. The only variable where reverse causality might be an issue in a cross-section setting is tourism. It is known that the number of tourists for a site or region increases after a site is listed (Yang et al., 2009). Two aspects tend to mitigate this problem. First, the impact of a site on a country's total tourist numbers or expenditure is quite small. Second, substitution effects within a country (sites not listed lose tourists) make the effect on total tourist numbers ambiguous (Arezki et al., 2009). We will address this issue in the panel estimations.

4.4.3 Panel Estimations

The panel structure of our country dataset allows us to estimate the flow determinants of the sites being added yearly to the World Heritage List. The data range from 1978 to 2007, and the number of sites nominated in a given year serves as a dependent variable. We conduct pooled cross-section and random-effects estimations. Another approach used by Bertacchini and Saccone (2012) is to use fixed-effects models to account for cultural and natural endowments. Since fixed-effects models capture all time-invariant influences, including factors unrelated to cultural and natural endowment, such a procedure can only indirectly account for the cultural and natural endowment of a country. It seems preferable to measure cultural and natural potential more directly. Among the factors that remain constant over time are the size of the area and also the number of years of high civilization. The estimates in Table 4.7 indicate that the previous results from the cross-section analysis hold.

Similar to Table 4.2, there is an interesting difference to the cross-section (or stock)

estimates concerning the impact of years in the Convention: The number of years a country has been part of the Convention is negatively correlated with the number of new sites a country obtains in a given year. The cross-section estimation suggests that the more years a country had been a member of the Convention, the more sites it had disposed in 2007. The panel estimation results now reveal a decreasing marginal rate of new sites. There may be two reasons for this. First, a country with more years in the Convention has already acquired more sites, so it has fewer potential new sites. Second, with more years in the Convention, there is increasing competition among the countries because in the meantime more countries have joined the Convention. This causes the probability of obtaining a new site in a given year to decrease.

To estimate the influence of the economic and political determinants, we perform negative binomial regressions with random effects (Table 4.7, columns 1–3). This method seems warranted because the likelihood-ratio test indicates that the panel structure is preferred over a pooled estimation. The estimations of the economic and political determinants are well in line with the cross-section results. GDP per capita shows a positive and insignificant impact on the number of UNESCO sites inscribed per year. To control for the impact of the media, we use the number of households with a TV. This variable has fewer missing values than that for Internet users (especially for the earlier years). The impact of the media on the number of sites nominated in a given year is positive and statistically significant, as expected. The coefficients of UN Security Council membership are somewhat ambiguous: Although the coefficient of being a permanent member is larger than that of being a rotating member, only the coefficient of being a rotating member is significant. The coefficient of tourist expenditures is again negative and significant.

To address the issue of the reverse causality of the tourism variable, we introduce a one-year lag of relative tourist expenditures (Table 4.7, column 2). It seems unlikely that a site's nomination in a given year has an impact on the tourist expenditures in the year before. This effect would only occur if a site is expected to be nominated. However, we did not find any evidence in the literature, travel guides, or newspapers that this might be the case. The coefficients of the lagged tourist expenditures confirm the negative and statistically significant correlation with the number of sites a country obtains in a given year. Thus, reverse causality does not seem to be an issue for the tourism variable. In a last step, we introduce federalism (Table 4.7, columns 3 and 6). As in the previous

Table 4.7: Panel Estimations of the Economic and Political Determinants of Yearly Nominated Sites in the World Heritage List 1977-2007 per Country

	(1)	(2)	(3)
GDP	-3.25e-05	-2.44e-05	-1.44e-06
	(-0.260)	(-0.154)	(-0.0110)
GDP per capita	0.0200	0.0209	-0.00111
	(1.552)	(1.504)	(-0.0618)
Tourists expend/exports	-0.0208**		-0.0199
	(-2.274)		(-1.443)
Lag Tourists expend/exports		-0.0180*	
		(-1.861)	
TV per HH	0.00962**	0.00810**	0.00992*
	(2.481)	(1.968)	(1.705)
Gvt spending/GDP	-0.00870	-0.00344	-0.00523
	(-0.420)	(-0.156)	(-0.169)
# Years UNSC_perm	0.605	0.458	0.752
	(1.279)	(0.892)	(1.422)
# Years UNSC_rotating	0.332*	0.326	0.258
	(1.769)	(1.630)	(1.090)
Federalism			0.746
			(1.446)
# Years in Convention	-0.0290**	-0.0352***	-0.0430***
	(-2.464)	(-2.697)	(-2.737)
Size of country	0.0929**	0.112**	-0.0387
	(2.060)	(2.226)	(-0.479)
# Years of high civilization	0.000257***	0.000278***	0.000400***
	(3.300)	(3.238)	(3.067)
Constant	0.275	0.673	0.418
	(0.404)	(0.822)	(0.415)
Observations	1,344	1,233	672
Number of id	150	147	69

Notes: The dependent variable is a country's total number of sites nominated in a given year. The coefficients are estimated with negative binomial panel estimations with random effects. The z-values are in parentheses. All regressions refer only to the countries of the World Heritage Convention in 2007. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. *Data source*: United Nations, World Bank Development Indicators, Database of Political Institutions, Debenham (1984) and O'Brien (2007).

section, this variable is associated with a considerable loss in the number of observations. However, in the pooled cross-section estimation, the coefficient again shows positive and significant effects.

The panel regressions (in contrast to the cross-section estimations of the stock determinants) are subject to a second issue, which decreases the likelihood of achieving statistically significant coefficients. There is a time lag in the application process. Local politicians need time before a site is accepted on the country's Tentative List and until it is officially nominated. After that, the Committee needs time to decide on the applications. The duration varies greatly, ranging from 12 months to 8 years, as was the case of Dorset and East Devon Coast (UK) (Leask and Fyall, 2001). No information is available on the length of the nomination process for every particular site; therefore, it is not possible to apply specific lagged independent variables (e.g., for Dorset, a lag of eight years). The estimates shown, therefore, are necessarily an approximation to the time-dependent effect. As a consequence, the estimated coefficients underestimate the various impacts on the number of sites inscribed per year. In general, when controlling for historical, political, and economic determinants, the main results of the cross-section estimations are supported: GDP per capita has a positive effect, tourist expenditures a negative effect, media distribution (in this case the percentage of households with a TV) a positive effect, and being a rotating member of the UN Security Council all have a positive effect on the number of UNESCO sites inscribed per year. All of these coefficients are statistically significant, which indicates that these political and economic factors do influence the composition of the List.

4.5 Alternatives to the World Heritage List

The World Heritage List is often discussed as if there was no alternative to it. It tends to be presented as the only means by which the globe's cultural and natural heritage can be preserved (see for example, Ashworth and van der Aa, 2006; Van der Aa, 2005; Johnson and Thomas, 1995). However, given that the World Heritage List has several important disadvantages, it is useful to consider alternatives. From an economic point of view, there are at least two relevant alternatives: the market and competing evaluations in the form of other Lists.

4.5.1 The Market

The idea that cultural and natural sites would be destroyed or seriously harmed if they were not protected by the World Heritage List is untenable. Indeed, if the negative effects outlined in section 4.2 dominated the positive effects, it would even be preferable not to have such a List. The World Heritage List is a strong political intervention in the market of heritage (or heritage protection).

One possibility to protect heritage is through the *private market* with admission revenues and donations. The amount of demand decides which sites to protect. It can hardly be doubted that most of the well-known sites on the List would still exist if they were not on it. Aachen Cathedral or Versailles would certainly not disappear. But it can be presumed that their state of preservation would not be better if they were not on the List. That would only be the case if the national conservation efforts were more intensive without the List. In the absence of external effects, the market could be trusted to preserve the globe's cultural and natural heritage. However, few economists, not to speak of other people, would be prepared to argue that this is the case. Heritage is a case with strong positive external effects that markets do not, or only insufficiently, care for (see section 3.3.1 and Towse, 2010). In addition to static externalities, there is the vexing problem of discounting over several generations (bequest value). Psychological (or behavioral) economics has well established that, with respect to evaluating the benefits and costs of future items, individuals are subject to systematic biases or anomalies (Thaler, 1992). While the market is imperfect, it must be compared to the equally imperfect system of the World Heritage List, following the comparative institutional analysis approach (Aoki, 2001; Demsetz, 1964)

A second possibility, also based on a market approach, is to introduce *World Culture Certificates* (as proposed by Frey and Pamini, 2009). At present, some rich countries spend a lot of money on the preservation of cultural monuments that are of only secondary importance while at the same time, in other poor countries, highly valuable cultural monuments fall into ruins for lack of money. With regard to the preservation of humankind's cultural goods, this is a waste of resources. The World Culture Certificate scheme induces nations to spend the money where it produces the greatest effect on preserving world heritage (highest marginal utility). The community of nations, as embodied by the United Nations, has to agree on a global heritage inventory and has to establish how

many World Heritage units each nation is prepared to save. Each World Heritage site conserved is acknowledged through the issuance of a tradable certificate. The cost of a certificate is lower the less expensive it is to save a particular World Heritage site. It is, therefore, advantageous for countries not only to concentrate on saving their own national heritage (which may be very expensive due to decreasing returns), but also to seek sites where funds can be expended most productively. Some World Heritage certificates can be acquired at relatively lower costs. Countries and private firms are induced to seek sites where financial resources can be spent most productively. This leads to an efficient allocation of resources to preserve World Heritage from a global point of view. Poor countries with only very limited available funds to protect their cultural heritage can commit to protecting their monuments and thus to acquiring certificates they will be able to sell on the market.

4.5.2 Competing Evaluations

The World Heritage Commission is not the only organization providing lists of cultural and natural heritage. Probably one of the very first lists of major sites contains the "Seven Wonders of the Ancient World". The historian Herodotus made early lists of seven wonders, which served as guidebooks popular among ancient Hellenic tourists. Nowadays, for-profit firms have long since established guides to the major heritage sites. Examples include tourist books attributing stars and similar attributes to the sites they find worth visiting, or scholarly and popular books devoted to informing people on what properties and landscapes they deem to be important, such as *1000 Places to See Before You Die* (Schultze, 2003). To a significant extent, the corresponding lists overlap with the World Heritage List.[20]

Many countries have extensive national lists of cultural and natural heritage sites to be preserved, such as the *Statutory List of Buildings of Special Architectural or Historic Interest* from *English Heritage*, the *National Heritage List* in Australia or the *Federal Inventory of Landscapes and Natural Monuments* in Switzerland.[21] However, these lists often carry little weight when there are competing claims with the UNESCO List, and

[20]The influence presumably goes both ways: the World Heritage Commission certainly consults such books, and these books include what is listed by the Commission.

[21]Lists are also possible at continental level: On 9 March 2010 the European Commission adopted a proposal to establish a *European Heritage Label*.

the sites listed are often badly funded. Some poor countries do not have such national lists and lack the resources to protect, secure and preserve their heritage. In that case, the international effort by UNESCO is helpful. While the World Heritage Commission provides practically no funds to help in the preservation effort, it is possible that inclusion in the List induces foreign nations, NGOs or sponsoring firms to provide help.

4.5.3 Comparative Institutional Analysis

The discussion shows that the effort by the World Heritage Commission has good and bad consequences, but that the same applies to alternatives. It follows that it is impossible to provide a general verdict, not least because an evaluation depends on preferences, or on the weights attributed to the various possible consequences. In a democratic political system, these weights have to be determined in the political process. What is possible, however, is to indicate the conditions under which the UNESCO List is particularly beneficial, and where and when it is more efficient to actively involve the market and the national lists of heritage sites.

Beneficial World Heritage List

Inclusion on the World Heritage List is advantageous when one or more of the following six conditions obtain.

1. *Undetected heritage sites*: The experts of UNESCO on culture and nature may be aware of particular heritage sites which are little known or unknown to the national decision-makers or market participants. This may be due to the sites being difficult to access or not yet excavated or developed at all. Suggesting that their respective governments propose them for inclusion in the World Heritage List draws attention to the sites and may help to preserve them.

2. *Commercially unexploited sites*: If access for tourists is very costly and burdensome and no facilities are available to host the visitors, or if the heritage sites are unfamiliar, inclusion in the World Heritage List may attract attention and funds by foreign governments and NGOs, and may start a commercial development of the site. The financial resources gained can help to preserve the corresponding sites.

3. *Disregarding the need to preserve heritage important to mankind*: Nations and regions may not fully, or sufficiently, appreciate the value of cultural and natural sites as a global public good, but the international experts and the World Heritage Commission do. This disregard may be due to insufficient knowledge, but presumably more often to ideologically biased views of what belongs to the planet's heritage. An example is the destruction of the Buddha statutes in Afghanistan by the then reigning Taliban. This act was undertaken for what the Taliban consider religious reasons. Also, the importance of particular sites for the global public good of heritage may be overlooked or discounted. Countries can exclude the heritage of minorities or may not nominate sites that hold extractable resources.[22] It is, of course, open whether inclusion in the World Heritage List is able to prevent the destruction of heritage sites by national governments and/or populations. Furthermore, the nomination process should be altered in a way that not only national governments are able to submit applications, but also other countries, NGOs, or UNESCO itself.

4. *Inadequate public resources*: The national and sub-national governments may want to preserve a particular heritage site but may lack the resources to do so because of extreme poverty in the country. Another reason may be that the funds granted by the government for preserving heritage sites are wasted by incompetent or corrupt bureaucrats. Putting a site on the World Heritage List, of course, does not change these fundamental conditions, but it may attract foreign funds less subject to waste.

5. *Inadequate political control*: Civil wars and political unrest may make access to and work on a heritage site dangerous or even impossible (Meskell, 2002; Gamboni, 2001). A site put on the World Heritage List gains visibility, which may at least partly overcome these problems due to the increased attention attracted.

6. *Inadequate technical knowledge*: A country may be willing to preserve its cultural and natural heritage but may lack the technical expertise to undertake this task competently. Once a site is on the List, the exchange of technical knowledge is facil-

[22]Turkey has not nominated any Armenian or Georgian sites (Pressouyre, 1996) and most sites in China highlight the glory of the Han culture, while only two sites represent minority cultures and European and colonial heritage is generally ignored (Agnew and Demas, 2002). One example for extractable resources is the case mentioned above of Oman's Arabian Oryx Sanctuary, which was delisted after the discovery of oil.

itated. The intensified contacts with the World Heritage Commission help educate a staff able to preserve and manage the sites.

Beneficial Alternatives

There are four important circumstances in which alternative approaches to the UNESCO List are commendable.

1. *Popular sites*: To put globally known and cherished properties such as the Colosseum, the Taj Mahal, or Stonehenge on the World Heritage List is unnecessary, as the market may be used to secure the funds necessary to preserve them. In fact, some properties are so popular that countries simply overlook nominating them because they receive enough funding to be maintained. One example is Chile, which ratified the Convention in 1980, but did not nominate its Easter Island until 1995 (Pressouyre, 1996). Using the price system with cultural and natural heritage requires regulations to deal with external effects. However, the price system must be used in a sensitive way. Often, resistance by heritage experts against the market must be overcome, and sometimes the people responsible for the heritage community are insufficiently educated and inexperienced to use pricing mechanisms beneficially. But today there are many examples which demonstrate that the price system may be helpful for conservation. A case in point is provided by the many churches in Venice, which were closed most of the time or even always because there was no money to employ guards. Nowadays, tourists can buy a ticket to visit the churches. This mechanism provides sufficient funds to reduce or fully prevent burglaries and destruction (Delaive et al., 2002). Another example is Bhutan, which restricts the number of tourists into the country by asking for an entry fee and requires its visitors to hire an official guide and driver.[23]

2. *Weak externalities*: There are sites of cultural and natural heritage where externalities are weak and where the price system can therefore be expected to work quite well. The market can work directly via tourism or indirectly through sponsoring. When the externalities produced by the market are stronger, they must be combined

[23]See the homepage of the German Department of Foreign Affairs http://www.auswaertiges-amt.de/diplo/de/Laenderinformationen/Bhutan/.html accessed on 24.04.2010.

with regulations reducing them. Examples are restrictions on the total number of visitors to a site or on the noise and traffic pollution created.

3. *Marked substitution effects induced by the inclusion in the World Heritage List*: Heritage sites whose positioning on the World Heritage List would lead to a neglect of other sites with respect to the attention received by the general public, the media, bureaucrats and politicians should not be proposed for the List. In that case, national and regional lists are preferable, as they are broader and include otherwise neglected sites (Peacock and Rizzo, 2008).

4. *Destruction potential*: In cases in which being on the World Heritage List can be expected to lead to a higher instance of destruction in armed conflicts and by terrorists, it is reasonable to choose a lower profile. Decentralized protection on the basis of national and regional lists is better suited since it attracts less attention.

4.5.4 Reform of the List

Some of the shortcomings of the List have been noticed by the Convention, and proposals for reform have been discussed. Imposing a time restriction or making a reevaluation obligatory after a certain period of time would mitigate the problem of overextension, since it would simplify the de-listing of sites. This "sunset clause" is, for example, applied within the European Diploma for Protected Areas. This proposal has been discussed within the Convention but was only minimally supported. At least a maximum number of new sites per year (30) has been introduced.

Our suggestion to stop overextension relies on the introduction of a global maximum number of sites. Monitoring the sites would be facilitated significantly. Sites would be listed according both to their quality and to their state of maintenance. Compared to the current situation, a competition for the best protection would arise in order to get a site inscribed on the List.

The UNESCO intends to increase the representativeness of the List but struggles to find appropriate criteria (e.g., chronological periods, cultural criteria or regional distribution). However, underrepresented state parties are encouraged to apply to change the composition of the List. To counteract the imbalance of the List, the UNESCO has developed a priority system, which prefers state parties with no sites. Further the number of

sites per country and year is limited (to one) to decrease the imbalance, but as shown in section 4.3.2, without a significant effect so far. Van der Aa (2005) adds the proposal to open the nomination process: Every country, organization or individual should be allowed to nominate sites. Many more sites would be nominated, so the selection process within a country would probably be less biased. However, the evaluation by the Committee would have to be much stricter.

In order to reduce unwarranted political influence we propose a radical reform: the application of random selection. Choosing the sites randomly, for example by lottery, is fair in the sense that every item has the same probability of being selected, which ensures a broad representation and reduces unwanted political interventions. This procedure has been extensively used to select the city council in Classical Greek and Italian city states such as Venice to select the Doge (for an overview see Buchstein (2010), for other applications see Frey and Steiner (2013)). The term demarchy denotes a form of government in which the state is governed by randomly selected decision makers. Today, it is still used for instance for jury services. Applied to the selection of World Heritage sites, two random mechanisms are possible.

The sites to be put on the World Heritage List can be chosen by lot from among all sites considered to be acceptable by the experts. All applications which are not rejected are counted as acceptable. Alternatively, all sites considered acceptable can be weighted by the classifications of the experts. Weight 3 will be given to those with recommended acceptance, weight 2 to those that have to be revised, and weight 1 to those with significant shortcomings. This procedure ensures representativeness of all acceptable sites. Rent-seeking possibilities are restricted. It becomes less attractive for governments to invest money and effort in propagating a site, because the final selection is beyond their influence. A possible disadvantage may be that a random selection does not provide the same prestige as what is claimed to be a serious choice by a World Heritage Committee.

To circumvent this problem, we suggest a second random mechanism. The selection is applied one step ahead, at the composition of the World Heritage Committee which today takes politicized decisions. The members of the Committee are selected by lot from the 186 member countries of the Convention. Random selection of the Committee members makes ex-ante bargaining, strategic voting and logrolling more difficult. Undesirable political influences can then to a large extent be excluded, which should give more weight to an

objective selection of sites based on the ten criteria agreed upon.

Random selection has been rarely used in such contexts, partly because the politically more influential countries object to its use. Moreover, many people object to random decisions because they are not used to them. Nevertheless, the World Heritage List seems to be an excellent situation in which to use this social decision mechanism.

4.6 Conclusion

The implementation of the UNESCO World Heritage List to protect the common global heritage constitutes a great step forward toward preserving one of the most important global public goods on our planet. The List now contains almost 1,000 sites, and its number has been steadily increasing since its establishment almost 40 years ago. It is now time to take critical stock of this effort. Our analysis reveals that strong positive effects are induced by the World Heritage List, in particular by drawing attention to previously unknown examples of our heritage, and by providing protection and conservation to specific objects.

However, there are also negative aspects related to the List: the induced substitution effect leading to less protection of sites not part of the World Heritage List; the potential deterioration of the sites by excessive tourism, and the creation of an attractive goal for destruction in wars and by terrorists. We focus on the striking imbalance of the List. The distribution across continents and countries is highly unequal, which suggests that factors other than the 10 official and objective UNESCO criteria also play a role.

To mitigate the strong imbalance of the List, in 1994, UNESCO launched the *Global Strategy for a Balanced, Representative and Credible World Heritage List*. Three of the main goals mentioned in the Global Strategy were (1) lowering the overrepresentation of developed countries and (2) the European continent and (3) increasing the share of natural compared to cultural sites. We show empirically that, surprisingly, all indicators suggest that the List has become, if anything, even more imbalanced since the Global Strategy was introduced. The ratio of cultural to natural sites has continued to increase, exacerbating progress toward the goal of a balanced distribution of these categories. The Gini coefficient reveals that the distribution of sites is now more concentrated than ever. The number of sites in Europe compared to the other continents has continued to increase

since 1994. Moreover, economically more developed countries have obtained relatively more sites. Furthermore, in contrast to the intention of the Global Strategy, countries with more years in the Convention have obtained relatively more sites per year. An unequal distribution does not necessarily mean that the selection is incorrect. Nevertheless, a strongly unequal distribution suggests that inappropriate aspects may play a role.

While political and economic aspects are unrelated to the value of global heritage, there are historical reasons why some countries have more sites than others: The number of years a country has been in the Convention, the size of the country, the number of years of high civilization, historical GDP, and historical population size are all found to be positively correlated with the number of sites. Although size is more important for the number of natural sites, historical GDP and population reflecting past development and the cultural potential of a country are more important for cultural sites.

Using these historical factors as controls, cross-section and panel estimates are used to identify the determinants of getting on the UNESCO World Heritage List. When simultaneously controlling for several factors, media distribution, federalism, and UN Security Council membership have a statistically significant positive effect on the number of sites on the UNESCO List, whereas tourist expenditures have a significantly negative effect.

The analysis undertaken suggests that the List is not solely determined by cultural or historical conditions but also by political and economic factors. The results are offered here for discussion. We do not judge normatively whether these factors should, or should not, have any influence on the selection of sites on the World Heritage List. However, the claim that inclusion on the List is solely, or even mainly, objectively determined by the 10 criteria of the Convention is open to serious doubt. The empirical analysis, which shows that inclusion on the List is systematically correlated with economic and political factors unrelated to what World Heritage is claimed to be, suggests that extraneous factors play a significant role. This testifies to the importance of the World Heritage List. Politicians, public officials, and interest groups in the various countries find it desirable to try to influence the selection because the List is considered to be relevant. The World Heritage List should be examined in this light, and it has to be discussed which economic and political influences are deemed to be legitimate and which are deemed to be unwarranted.

To the extent that such extraneous factors are deemed to be illegitimate when de-

termining the UNESCO List of global heritage, several approaches to reforming the List are possible. The role of experts subject to unwarranted influences can be reduced by conducting willingness-to-pay studies of heritage sites. Countries with no sites inscribed can be encouraged to apply for the List. The latter strategy, which UNESCO introduced in 1994, has so far not been able to significantly reduce the imbalance of the List. We suggest an innovative proposal to reform the World Heritage List, namely a random selection process. A random selection of sites is fair in the sense that every item has the same probability of being selected, which ensures a broad representation and reduces unwanted political interventions.

An overall verdict of whether the UNESCO initiative has been beneficial to conserving the globe's heritage is unwarranted. We seek to identify areas in which the World Heritage List is more likely to reach its goal, and where this is less likely. The List tends to be beneficial in cases where heritage sites are undetected, disregarded by national decision makers, not commercially exploitable, and where there are inadequate national financial resources, political control and technical knowledge for conservation. On the other hand, alternatives are likely to be beneficial where the cultural and natural sites are already popular, markets work well, sites not on the World Heritage List are negatively affected, and where inclusion in the List does not raise the destruction potential by excessive tourism or in times of war. This discussion is meant to further our understanding of the political and economic factors that influence the composition of the List. It may help decision makers involved in deciding about World Heritage issues to take steps to improve the selection of World Heritage sites that truly reflect the "parts of the cultural or natural heritage [that] are of outstanding interest and therefore need to be preserved as part of the world heritage of mankind as a whole" (UNESCO, 1972, p. 1).

Chapter 5

Conclusions

5.1 The Economic Approach to Art and Culture

Cultural economics is a growing field in the social sciences. My dissertation, "Essays on the Economics of Art and Culture", focuses on disregarded aspects in this field, such as the relation of culture and happiness and the political economy of the World Heritage List. The rational choice approach is used as the basic analytical method for studying this variety of issues. The model of human behavior characteristic for this approach distinguishes between preferences and constraints, such as income, prices, disposable time and institutions (Becker, 1976). The interrelated concept of methodological individualism states that social phenomena can best be explained in terms of the economic agents' individual rational choices and not exclusively by the context of societal aspects. Happiness research can be seen as a direct application, since well-being is measured at the individual level and used as a proxy for utility (Layard, 2011).

The rational choice approach has been extended beyond the limits of existing neoclassical economics by taking insights from other disciplines into account. In this spirit, my thesis also applies an interdisciplinary approach. Happiness research and the relation of culture and well-being are obvious examples of this, in which many aspects of psychological research are considered (Diener et al., 2009; Kahneman and Krueger, 2006). Chapter 2 employs happiness research and shows that, in contrast to neoclassical theory, the job satisfaction of artists is not negatively related to working hours. Moreover, artists derive utility from the process and not only from the outcome of work. The importance accorded to political decisions and institutions is another extension to the neoclassical approach, in

this case promoted by political economy and research on international organizations (see for example, Dreher et al., 2009; Vaubel, 2006). For example, the decision to host a European Capital of Culture is based on political and bureaucratic considerations. Chapter 3 shows that this decision leads to a decrease in the life satisfaction of the local population, which contradicts the benevolent dictator approach of classical welfare economics. Chapter 4, which discusses the World Heritage List, shows how political actors systematically react to incentives and try to maximize the number of sites in their countries, given the institutional settings of the World Heritage Convention. A comparative analysis of institutions is conducted to evaluate under which conditions different measures are best able to protect global heritage. In this part of the thesis, insights from political science, history and even art history are also considered.

The role of the state in regulating and financing culture, from a positive and normative perspective, is probably the most important issue in cultural economics (Towse, 2010; Frey, 2003; Peacock, 1969). Thus, a crucial aspect is to identify the value of culture for society and to measure externalities. As described in sections 1.2 and 3.3, many different approaches, such as impact studies and stated and revealed preference methods have been developed and applied over the last decades. Chapters 2 and 3 comprise the first applications of modern happiness research to the cultural sector to empirically analyze how large the benefits and costs derived from cultural activities are. The effects of arts and culture on life satisfaction, on both the consumption and the production sides, have strong management and policy consequences. They are relevant for society as a whole. In the following, I conclude my dissertation by discussing the main results, contributions, limitations and research perspectives of chapters 2, 3 and 4.

5.2 Artists' Job Satisfaction

Individuals entering the artistic labor market face several adversities, such as low wages, above-average unemployment, and constrained underemployment. According to the literature in psychology and psychiatry, artists also suffer from mental disorder more frequently and commit suicide more often than non-artists. Overall, it can therefore be expected that artists are less happy than non-artists see for example (see for example, Vellante et al., 2011; Stack, 1997). Despite these adversities, the artistic labor market attracts

many young people, and the number of students exceeds the available jobs by far. A potential explanation for this puzzle is that artistic work might result in exceptionally high job satisfaction. In my thesis, I conduct the first direct empirical investigation into artists' job satisfaction. On a scale from 1 to 10, the job satisfaction of artists is around 0.3 points higher than that of other employees. The size of the correlation is sizeable and comparable to the effect of being self-employed. Interaction effects show that for artists, unlike for non-artists, the effect of working hours on job satisfaction is positive. The effect of income is substantially smaller for artists, i.e., artists derive less utility from income than do other workers.

Differences in personality cannot account for the difference observed in job satisfaction. The higher job satisfaction can partially be attributed to the higher self-employment rate among artists. The remaining difference in job satisfaction is shown to be related to procedural characteristics. Greater autonomy in choosing working hours and place, increased variety and on-the-job learning contribute to the difference in job satisfaction. In general, the findings suggest that the popular view of artists as depressed and suicidal is not consistent with the empirical facts.

The *contribution* of chapter 2 to the existing literature is to apply modern happiness research to the labor market decisions of artists. This approach has not yet been applied to issues in cultural economics, where artistic labor market choices have so far been explained with standard economic superstar theory (Schulze, 2011; Alper and Wassall, 2006; Abbing, 2002). As a contribution to labor economics, chapter 2 shows that procedural job aspects lead to increased job satisfaction for artists. In contradiction to standard neoclassical theory, artists' job satisfaction does not decrease with an increase in working hours. By identifying procedural characteristics which increase artists' and other employees' job satisfaction, it is possible to derive management implications. For example, it is known that increasing employees' satisfaction tends to increase efficiency in the work place (Van De Voorde et al., 2012; Wikoff et al., 1983). The findings in my thesis also have important policy implications. They suggest that greater effort should be made in safeguarding artists' self-determination and autonomy, and rules and regulations constraining them should be used with care. For example, cultural scholarships should be awarded unconditionally and should not restrict the content or working structure of the awardee. Yet, while supporting artists financially is important, it should not be the

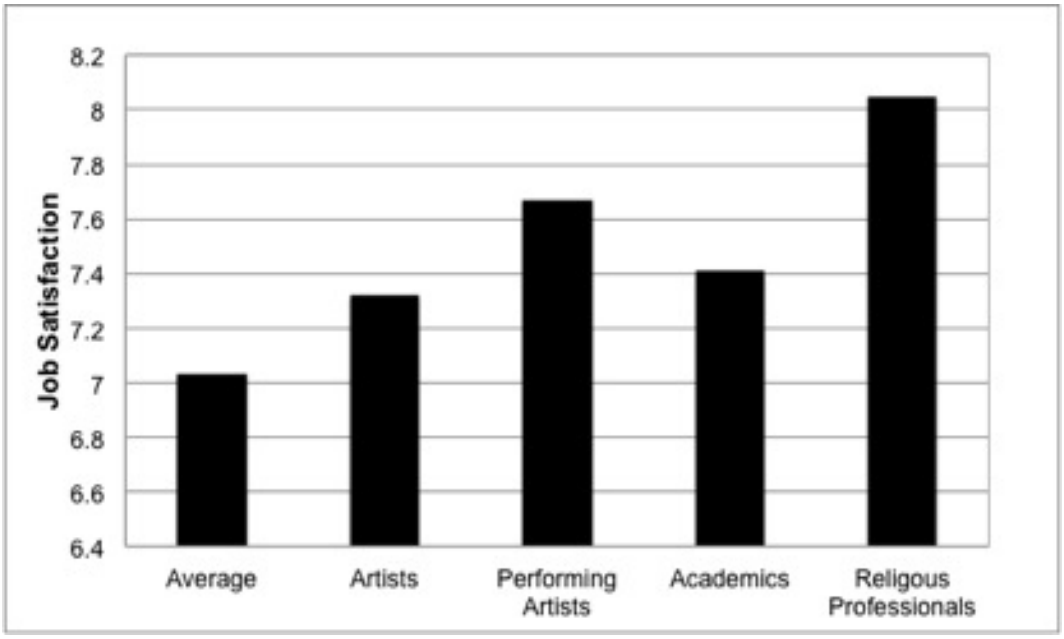
major, let alone the only, consideration.

Chapter 2 is also subject to some *limitations*. Even though procedural characteristics and being self-employed explain most of the higher job satisfaction among artists, an unexplained difference remains. The coefficient which depicts the job satisfaction difference between artists and non-artists is still positive (around 0.1) when controlling for procedural characteristics. This can either be attributed to the satisfaction artists get from creating artworks (psychic income) or other procedural characteristics, which are not controlled for. The evidence for the relation between on-the-job learning and variety of work remains merely suggestive. Better data on procedural characteristics would be necessary to test their influence on artists' job satisfaction in a multivariate regression.

Another common issue in happiness research is reverse causality, which is difficult to solve with conventional techniques, such as instrumental variable estimations, since most potential instrumental variables are correlated with happiness. One approach to solving the reverse causality issue is to analyze the effect of an event that exogenously increases the number of artists. Benz and Frey (2008) used the fall of the Berlin Wall to investigate the relation of self-employment and happiness. This approach is not applicable in the case of artists. Firstly, the restrictions in Eastern Germany for the arts were not as clear as for self-employment. Secondly, the number of artists is a magnitude smaller than the number of self-employed, making it very difficult to find sufficient data on an exogenous event.

One possible *extension* of my work is to investigate the job satisfaction of other occupational groups. Several other occupations exist in which workers experience adverse outcomes with respect to income, working hours or risk compared to other employees with the same qualification or education. Those in single occupations, such as teachers and academics, have been shown to be more satisfied with their work than the average (Ward and Sloane, 2000). To date, there is no comparison of different occupations or a broader framework for their procedural utility. Occupational groups of interest are, for example, academics, religious professionals, and athletes. It has to be noted that, just like the labor market for artists, the market for athletes is often explained with superstar theory. Figure 5.1 shows the average job satisfaction of various occupational groups in Germany. The increased satisfaction of artists, academics and religious professionals indicates a possible direction for future research.

Figure 5.1: Average Job Satisfaction of Various Occupations in Germany (1990-2009)



Data source: GSOEP 1990-2009

How compatible are my findings with the evidence that artists are more prone to mental illness and committing suicide? A possible explanation could be that artists, while exhibiting high job satisfaction on average, over time experience particularly large fluctuations in subjective well-being. In the phase in which they are severely depressed, they tend to commit suicide more often than other individuals. In psychiatry, this phenomenon of bipolarity has been noted to apply to artists and other creative people (Tremblay et al., 2010; Vellante et al., 2011; Kyaga et al., 2011). To investigate variations in affective happiness (bi-polarity) and the relation between short-term happiness and long-term satisfaction constitute fruitful approaches for future research.

5.3 Cities of Culture

The European Capital of Culture initiative is today regarded as the most prestigious and popular cultural event in Europe (Mittag, 2008). Chapter 3 analyzes the impact of hosting this cultural mega-event on regional economic development and the life satisfaction of the local population. Most studies on mega-events analyze sport events and restrict their focus to their economic consequences. Little is known about the impact of cultural events

on the well-being of the population. Concerning the economic impact, we show that European Capitals of Culture are hosted in regions with above-average GDP per capita, but that the event does not causally affect economic development in a significant way.

Surprisingly, using difference-in-difference estimations, a negative effect is found on the well-being of the regional population during the event. The life satisfaction of the local population decreases by roughly 0.09 on a four-point scale, which equals one fourth of the effect of being unemployed and is thus quite sizeable. Since no effect is found before the event, reverse causality and positive anticipation can be ruled out. The analysis of socio-economic groups shows that hosting a European Capital of Culture has a weaker negative impact on highly educated individuals and a stronger negative impact on the unemployed. It is shown that faster growing regions suffer less from hosting the event. The negative effect during the event might result from dissatisfaction with the high levels of public expenditure, transport disruptions, general overcrowding, or an increase in housing prices.

In most countries, the cultural sector is heavily subsidized and regulated by the state. Conventional economic theory states that government interventions are justified when market failures, such as external effects, occur. The *contribution* of chapter 3 is to suggest a new approach to the measurement of potential externalities in the cultural sector. I apply modern happiness research to estimate the effect of hosting a cultural mega-event on the life satisfaction of the local population. This procedure provides new opportunities for capturing the value of culture which complement the previous literature (Seaman, 2011; Langen and Garcia, 2009; Herrero et al., 2006).

Public interventions in the cultural sector are frequently subjected to political evaluations. The results of chapter 3 may stimulate the political discourse and provide information about potential adjustments in the actual policy. My research certainly does not imply a case against increasing cultural supply. However, the consequences of mega-events, cultural or sporting, should be considered more carefully. One approach is to use existing infrastructure to a greater extent to reduce the cost of an event. De-centralizing an event can reduce the negative consequences for the local population which arise from overcrowding of a city or region. This concept will be applied by the UEFA European Football Championship 2020, which will be hosted in several countries. Overall, the well-being of the local population should be taken into account. This is supported by the fact

that, in a recent referendum, the population of the Swiss Canton of Graubünden voted against an application for the Winter Olympics 2022.[1]

The analysis in chapter 3 has to deal with certain *limitations*. The data is restricted to 24 European Capitals of Culture between 1985 and 2002. Concerning the period examined, it would be interesting to include surveys after 2002. Nineteen surveys conducted between 2002 and 2010 include life satisfaction data. However, only three include the necessary control variables income, number of children and information on occupation. Since income is a crucial control variable for economic life satisfaction estimations, we refrain from using the surveys after 2002.

A second restriction is the lack of data to evaluate the channels through which a European Capital of Culture has a negative impact on life satisfaction. Eurostat or other centralized data sources do not provide sufficient data at regional level (NUTS 2) or over a longer period for tourism, construction, noise, overcrowding of public transport, trash, or crime. Measuring the mechanisms through which a mega-event influences the well-being of the local population could be a staring point for future research.

Besides investigating the impact channels, other open issues remain for *future research*. In this thesis, only the well-being of the local population is measured. Another question is how European Capitals of Culture affect the satisfaction of visitors, i.e. domestic or foreign tourists. If the event has a positive impact on non-local visitors, the total welfare effect for the country (or for Europe) may well be positive. Due to a lack of data, it is not possible to track non-local individuals who visited a European Capital of Culture. Collecting more extensive visitor data is needed for this purpose.

To the best of my knowledge, no large-scale data on cultural attendance during or after the event are available at individual or regional levels. An interesting issue is whether the effect of European Capitals of Culture differs for individuals, depending on their interest in culture. A related question is whether such an event has the potential to foster long-term interest in culture. Applying happiness research to capture the value or external effects of other cultural festivals or venues besides the European Capitals of Culture constitutes an obvious path for future research.

[1]See, for example, the newspaper article on the vote on the Olympics in Switzerland: http://www.nzz.ch/aktuell/schweiz/buendner-sagen-nein-zu-olympia-1.18036543, accessed on 1.4.2013

5.4 World Heritage

Chapter 4 provides a comprehensive analysis of the UNESCO World Heritage List. Positive consequences of inscription on the List are increased attention to heritage sites and the protection provided for specific objects. Among the negative aspects are the induced substitution effects and the potential destruction of the sites. Chapter 4 focuses on the questionable selection of sites, which is reflected in a strikingly unequal distribution of sites across the world. The selection process is subject to rent-seeking by the commercial heritage industry and politicians and bureaucrats, who pursue national interests. The analysis reveals that economic and political factors unrelated to the value of the heritage, such as the size of the tourist sector, the importance of media, and the degree of federalism or membership in the Security Council have an influence on the composition of the List. Despite efforts by the UNESCO in the form of the *Global Strategy for a Balanced, Representative and Credible World Heritage List*, the imbalance has if anything increased over time.

The conditions under which alternatives such as the market system and national lists are better able to protect heritage are discussed in the framework of a comparative analysis,. In addition to the discussion of several existing reform proposals, a new selection mechanism is suggested. Introducing a random selection of sites or members of the World Heritage Committee could help to ensure a broad representation and reduce unwanted political interventions.

Chapter 4 *contributes* to a rich literature on the political economy of international organizations (see for example, Dreher and Voigt, 2011; Vaubel and Willett, 1991), by estimating the political and economic determinants of the World Heritage List and by demonstrating that the *Global Strategy for a Balanced, Representative and Credible World Heritage List* did not achieve the results intended. By conducting a comparative analysis of alternative protection measures, my research also adds insights to the field of institutional economics (for an overview see, Menard and Shirley, 2005). With respect to policy implications, chapter 4 also discusses previous reform proposals and derives a new proposal. Introducing a random selection of sites or of the Committee members has the potential to improve the protection of the global public good of heritage of mankind.

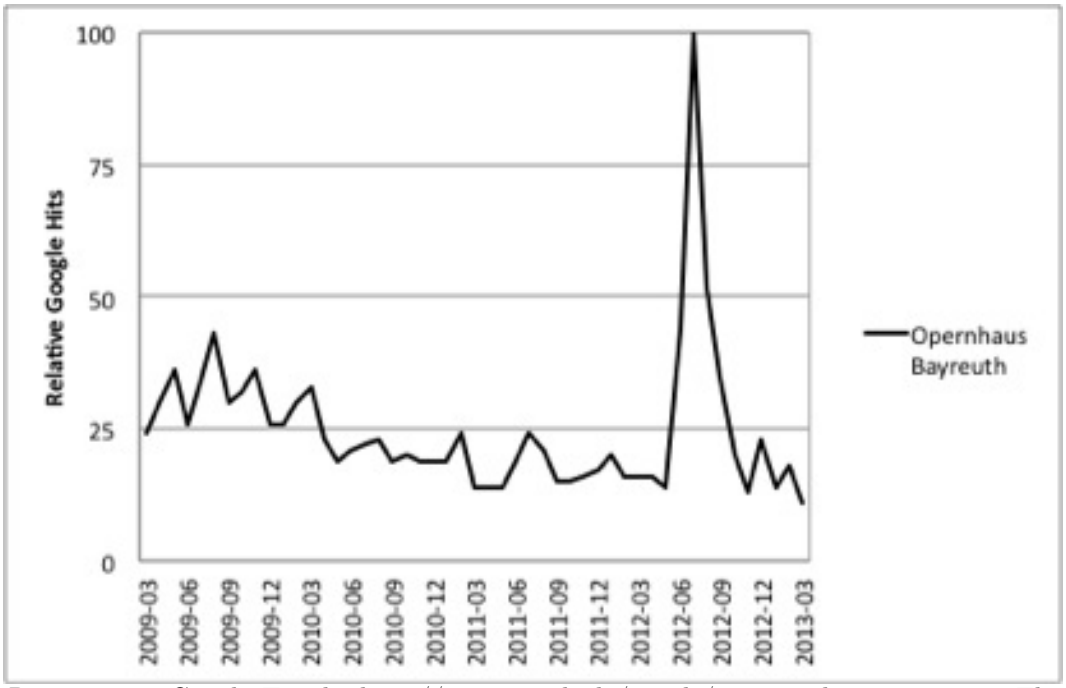
The results presented in chapter 4 on World Heritage are subject to some *limitations*. Due to a lack of control variables, most of the regressions on country level only include the

period from 1978 to 2007. More recent years could not be included since, for example, data on GDP, media dispersion, tourism, and in many developing countries even population are not available. Some variables exhibit many missing values. As indicated in section 4.4.2, the estimations including the degree of federalism have to be interpreted with care.

The focus of this part of my thesis is on the questionable selection of sites. The other positive and negative implications of the World Heritage List are only treated theoretically. An empirical evaluation of the overall (net) effect of the UNESCO List on the protection of heritage would be interesting and desirable, but is beyond the scope of this thesis.

My research on World Heritage can serve as a starting point for *future research*. The theoretical discussion of positive and negative aspects of the World Heritage List points to several interesting empirical questions. The question of whether the World Heritage List leads to an increase in tourism has mostly been investigated for single sites (see, Leask and Fyall, 2006), but has not been answered conclusively on a broad empirical basis (for an example see the debate between, Yang and Lin, 2010; Cellini, 2011; Yang et al., 2009).

Figure 5.2: Google Hits of the Opera House in Bayreuth (Opernhaus Bayreuth) Around the Inscription on the UNESCO List in June 2012



Data source: Google Trends, http://www.google.de/trends/, accessed on 15.3.2013. The number 100 represents the peak search interest.

The impact of a nomination on public attention has, to my knowledge, not been investigated so far. New data sources such as Google Trends enable quantitative research into the attention generated by the List. Figure 5.2 shows the development of Google hits after the opera house in Bayreuth, Germany, was nominated for the UNESCO List on June 30th, 2012. Notwithstanding its popularity before the nomination, the site experienced a strong increase in traffic. This data can be used to compare the attention generated by the List objectively with other measures to attract attention, such as inclusion on a national list or increased marketing efforts.

Another open research question concerns the strength of the substitution effect induced by the nomination of sites for the List. When sites that are not inscribed receive less attention, funding or tourists, the World Heritage List could even have a detrimental effect on global heritage taken as a whole.

5.5 Final Remarks

This thesis presents an economic analysis of different topics in the cultural sector, based on and extending rational choice theory. Determining the relation of culture and happiness in the field of cultural economics is a new contribution that has not been studied so far. My thesis suggests that modern happiness research is worth considering when the value of culture for society is to be measured. The benefits of the cultural sector, both on the labor market and on the consumption side, can be determined with individual subjective well-being. The analysis of the UNESCO World Heritage constitutes a contribution to the field of political economy and shows how political processes, even in the cultural sector, can lead to undesired outcomes. All in all, many questions and interesting issues remain open for future research. Driven and inspired by a personal interest in the arts, I hope my thesis enriches both academic and public debate about the cultural sector.

Appendix

Table A.1: Description of Variables Used in Job Satisfaction Estimations (Tables 2.2, 2.4, 2.3, 2.5, 2.8 and A.3)

Name	Description	EVS	GSOEP	SHP	BHPS
Performing & Visual Artists	= 1 if individual is a performing or visual artist in the principal occupation, 0 else (see Table 2.1 for a list of the respective occupations)	x	x	x	x
Performing Artists	= 1 if individual is a performing artist in the principal occupation, 0 else (see Table 2.1 for a list of the respective occupations)	x	x	x	x
Job satisfaction	Overall job satisfaction. Scale: 0 (totally unsatisfied) to 10 (totally satisfied); in the BHPS the scale ranges from 0 - 7	x	x	x	x
Age	Age in years	x	x	x	x
Sex	=1 if female	x	x	x	x
Total gross income	Current gross monthly labor income in Euros (EVS & GSOEP), Swiss Franks (SHP) and British Pound (BHPS)	x	x	x	x

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Working hrs. per week	Total working hours in an average week (including overtime)		x	x	x
Self-employed	= 1 if self-employed, 0 if employed	x	x	x	x
Tenure	Firm tenure in years		x		x
Education	Level of education (or training)	8 categories	in # of years	17 categories	7 categories
Firm size	Size of the firm of major occupation		5 categories		

Data source: Variables used in Tables 2.2, 2.4, 2.3, 2.5, 2.8 and A.3 are from European Value Study (EVS), for more information see also http://www.europeanvaluesstudy.eu; German Socio-Economic Panel (GSOEP) for more information see also Wagner et al. (2007); Swiss Household Panel (SHP) for more information see also http://www.swisspanel.ch; British Household Panel Survey (BHPS) for more information see also https://www.iser.essex.ac.uk/bhps; The European Value Study includes the following 47 countries: Albania, Armenia, Austria, Azerbaijan, Belarus, Belgium,Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Iceland, Ireland, Italy, Kosovo, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Republic of Moldova, Republic of Montenegro, The Netherlands, Northern Ireland, Norway, Poland, Portugal, Romania, Russian Federation, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, and Ukraine. *Included years*: EVS 1999 & 2008, GSOEP 1990-2009, SHP 1999-2010, BHPS 2001-2008

Table A.2: Description of Procedural Variables Used in Tables 2.7 and 2.8

Name	Description
Switzerland (SHP)	
Risk of unemployment: next 12 month	How do you evaluate the risk of becoming personally unemployed in the next 12 months, if 0 means "no risk at all" and 10 "a real risk"?
Interference work & private life	How strongly does your work interfere with your private activities and family obligations, more than you would want this to be, if 0 means "not at all" and 10 "very strongly"?
Difficult to de-connect from work	How difficult do you find it to deconnect from work when the work day is over, if 0 means "not difficult at all" and 10 means "extremely difficult"?
Stressful work	Does your job expose you to stress? (1=yes, 0=no)
Work at night	Within a normal month, do you work according to one of the following types of time schedules: night work? (1=yes, 0=no)
Work on weekend	Within a normal month, do you work according to one of the following types of time schedules: Saturday or Sunday? (1=yes, 0=no)
Flexible working hours and own decision	Are your working hours: = 1 if same every day, alternating shift or vary from day to day (decided by employer); = 0 if vary from day to day (decided by employee).
Work at home	Do you sometimes work at home? (1=yes, 0=no)
Satisfaction: Work conditions	On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? Your work conditions.
Satisfaction: Work atmosphere	On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? The atmosphere between you and your work colleagues.

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Satisfaction: Interest in tasks	On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? The level of interest in your tasks.
Satisfaction: Income	On a scale from 0 "not at all satisfied" to 10 "completely satisfied" can you indicate your degree of satisfaction for each of the following points? The income you get from your job.
Satisfaction: Financial situation	Overall how satisfied are you with your financial situation, if 0 means "not at all satisfied" and 10 "completely satisfied"?
Germany (GSOEP)	
Job variety	We show the fraction of individuals that answered the question "Is your job varied?" with "applies completely"
On-the-job learning	We show the fraction of individuals that answered the question "Do you often learn something new on the job, something which is relevant for your career?" with "applies completely"
Autonomy on tasks	We show the fraction of individuals that answered the question "Do you decide yourself how to complete the tasks involved in your work?" with "applies completely"

Data source: Variables used in Tables 2.6, 2.7 and 2.8 are from European Value Study (EVS), for more information see also http://www.europeanvaluesstudy.eu; German Socio-Economic Panel (GSOEP) for more information see also Wagner et al. (2007) and Swiss Household Panel (SHP) for more information see also http://www.swisspanel.ch; *Included years*: EVS 1999 & 2008, GSOEP 1995 & 2001, SHP 1999-2010

Table A.3: Job Satisfaction Determinants in Germany: Pooled Cross-Section Regressions

	(1)	(2)
Performing & Visual Artists	0.1471	
	(1.458)	
Performing Artists		0.5393***
		(2.978)
Non-Artists	Reference group	
Total gross income (log)	0.4491***	0.4491***
	(24.92)	(24.94)
Working hrs. per week	-0.0294***	-0.0294***
	(-10.62)	(-10.60)
(Working hrs.)^2	0.0002***	0.0002***
	(7.220)	(7.204)
Tenure	-0.0079***	-0.0079***
	(-2.896)	(-2.909)
(Tenure)^2	0.0002**	0.0002**
	(2.210)	(2.217)
Self-employed	0.2336***	0.2340***
	(5.987)	(6.005)
Socio-econ. controls	yes	yes
Wave fixed effects	yes	yes
Observations	173'491	173'491
R^2	0.022	0.022

Notes: Dependent variable job satisfaction, scale 1-10. The pooled cross-section OLS regressions include robust standard errors (corrected for repeated observations of individuals), the t-statistics are in parentheses. ***, **, * denotes significance at the 1%, 5%, and 10% level respectively. The regressions include control variables for age, age^2, gender, monthly income, weekly working hours, education, tenure, tenure squared, firm size, self-employment, and wave fixed effects. *Data source*: GSOEP 1990-2009

Table A.4: Description of Variables Used in GDP per Capita Estimations (Tables 3.2 and 3.3)

Name	Description
GDP per capita (growth)	GDP per capita (growth) on regional (NUTS 2)
Population density	Population density on regional (NUTS 2) level
Sectoral shares	5 variables for the share of gross fixed capital formation on regional (NUTS 2) level:
	Agriculture, fishing
	Industry
	Construction
	Wholesale and retail trade
	Financial intermediation
Human capital	4 variables for the share of students by level of education on regional (NUTS 2) level:
	Pre-primary education
	Primary, lower and upper secondary education (levels 1-3)
	Post-secondary non-tertiary education (level 4)
	First and second stage of tertiary education (levels 5 and 6)

Source: Variables for the GDP estimations in Tables 3.2 and 3.3 are from Eurostat 1995-2011

Table A.5: Description of Variables Used in Life Satisfaction Estimations (Tables 3.4, 3.5 and 3.6)

Name	Description
Life satisfaction	Overall life satisfaction, measured through a four point scale ranging from 0 ('not at all satisfied'), 1 ('not very satisfied'), 2 ('fairly satisfied') to 4 ('very satisfied')
ECOC	= 1 if the respective region hosts an European Capital of Culture in a certain year, 0 else (see Table 3.1 for a list of the respective cities)
ECOC t-4, t-3, t-2, t-1, t+1, t+2	Dummy variables taking on the value 1 if the respective region hosted an ECOC in following or previous years, 0 else.
Ln (Income)	Mean income computed from income groups of Eurobarometer Trend File. Transformed into USD by controlling for purchasing power parity. Included in the estimations in a logarithmical form.
Education	Age of graduation. The higher the graduation age, the better educated an individual is.
Gender	= 1 if female
Age and Age2	Age in years and age squared
Single Married, Living together, Divorced, Separated, Widowed	Marital status. Dummy variables taking on the value 1 if respondent belongs to the respective group
Employed, Unemployed, Retired	Employment status. Dummy variables taking on the value 1 if respondent belongs to respective group
No children, One child, Two children, Three children, Four children	Number of children. Dummy variables taking on the value 1 if respondent has respective amount of children
GDP per capita growth	GDP per capita growth on regional (NUTS 2)

Source: Variables for the life satisfaction estimations in Tables 3.4, 3.5 and 3.6 are from Eurobarometer 1980-2002, except GDP per capita which is from BAK Basel (1980-2002)

Table A.6: Data Description

Name	Description	Source
Dependent Variables		
Sites per country in 1993	Total number of World Heritage sites a country has in 1993	UNESCO
Sites per country in 2007	Total number of World Heritage sites a country has in 2007	UNESCO
Sites up to year t	Total number of World Heritage sites a country has accumulated up to year t	UNESCO
New sites in year t	Number of new World Heritage sites a country has obtained in year t	UNESCO
Independent Variables		
Europe	Dummy variables taking on the value 1 if the respective country is in Europe, 0 else.	UN
Africa	Dummy variables taking on the value 1 if the respective country is in Africa, 0 else.	UN
America	Dummy variables taking on the value 1 if the respective country is in America, 0 else.	UN
Asia-Pacific	Dummy variables taking on the value 1 if the respective country is in Asia-Pacific, 0 else.	UN
Arabia	Dummy variables taking on the value 1 if the respective country is in Arabia, 0 else.	UN
Size of country	Size of country in million square kilometer	WDI
Population	Total population of a country in 100 million persons	WDI

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# Years in Convention	Number of years a country has been member of the World Heritage Convention	UNESCO
Strategy	Dummy variables taking on the value 1 for all years after 1993 (the introduction of the the UNESCO Global Strategy)	UNESCO
# Years of high civilization	The number of years a country has been a part of one of the 16 most important historical cultures (Mesopotamian, Arabian, Phoenician, Persian, Egyptian, Ottoman, Jewish, Greek, Occident, Aegean, Roman, Byzantine, Indian, Chinese, Mongolian, and Japanese).	Debenham (1984) & O'Brien (2007)
GDP per capita in year 1500	A countries historical GDP per capita in the year 1500	Maddison (2007)
GDP per capita in year 1820	A countries historical GDP per capita in the year 1820	Maddison (2007)
Population in year 1500	A countries historical population in the year 1500	Maddison (2007)
Population in year 1820	A countries historical population in the year 1820	Maddison (2007)
GDP	GDP in constant 2000 US$ in billion US$	WDI
GDP per capita	GDP per capita in constant 2000 US$ in 1,000 US$	WDI
Tourists expend/exports	Receipts from international tourism as % of total exports	WDI
Internet user	Number of internet users per 100 people	WDI
TV per HH	Share of households with television	WDI
Gvt spending/ GDP	General government final consumption expenditure as % of GDP.	WDI
Federalism-Index	A proxy for decentralization and federalism is derived from the Database of Political Institutions. In the line of Torgler and Frey (2012) an index is constructed covering the following variables: contiguous autonomous regions, locally elected municipal governments and state/province governments.	DPI

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# years UNSC_perm	Number of years a country has been a permanent member of the UN Security Council	UN
# years UNSC_rotating	Number of years a country has been a rotating member of the UN Security Council	UN

Data Sources: Sources: For UNESCO see http://whc.unesco.org/en/list; For WDI see World Bank Development Indicators on http://data.worldbank.org/data-catalog/world-development-indicators; For DPI see Database of Political Institutions http://www.nsd.uib.no/macrodataguide/set.html?id=11&sub=1; For UN see http://www.un.org/ and http://www.un.org/en/sc/members/elected.shtml.

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Curriculum Vitae

Lasse Steiner was born on February 22nd, 1982 in Kiel, Germany. He studied Economics at the University of Konstanz and the University of North Carolina at Greensboro from 2003 to 2008 . In 2008 he received his Master of Science in Economics (dipl. oec. publ.) from the University of Konstanz. During his studies he received scholarships from the 'Landesstiftung Baden-Wurttemberg', e-fellows.net and a tuition waiver from the University of Konstanz. He was a doctoral student in economics at the University of Zurich from 2009 to 2013. During this time he worked as a research assistant at the chair of Prof. Dr. Dr. h.c. mult. Bruno S. Frey at the Department of Economics at the University of Zurich. His dissertation was supported by a Candoc scholarship of the University of Zurich. In July 2013 he defended his doctoral thesis and passed with highest distinction (summa cum laude). Since August 2013 he is visiting the University of California at Berkeley as a post-doctoral research fellow. His stay at Berkeley's Center for Law, Economics and Business is supported by a Scholarship of the Swiss National Science Foundation. His primary research interests are cultural economics, happiness research and political economy.